

ARCHITECTURAL

MARCH 1953

RECORD



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BUILDING TYPES STUDY NUMBER 196



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ARCHITECTURAL RECORD (Vol. 113, No. 3, March, 1953) is published monthly by F. W. Dodge Corp., 10 Ferry Street, Concord, N. H., with editorial and executive offices at 119 W. 40th St., New York 18, N. Y. \$4.50 per year; Foreign, \$6.50.

Entered as second-class matter at the Post Office, Concord, N. H., March 16, 1946, under the Act of March 3, 1879.

ARCHITECTURAL RECORD



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Architectural Record (combined with American Architect and Architectural) is published monthly by F. W. Dodge Corporation, 10 Ferry Street, Concord, N. H., with editorial and executive offices at 119 West 40th Street, New York 18, N. Y. Western editorial office, 2877 Shasta Road, Berkeley 8, Calif.

Chairman of the board, James McV. Breed; vice chairman of the board, Paul Abbott; president, Thomas S. Holden; vice president and treasurer, Howard Barringer; secretary, Sanford D. Stockton, Jr.; vice presidents: Irving W. Hadsell, Chauncey L. Williams, H. Judd Payne, T. Oliver Morgan; assistant secretaries: George W. Morgan, Jr., William C. Breed, Jr.; assistant vice presidents: Clyde Shute, Clifford G. Dunnells, Jr., Howard M. Thompson, Marc Wayne, Robert F. Marshall; assistant treasurers: Walter F. DeSaix, Edwin H. Freed, Irving B. Satin; regional vice presidents: Carl S. Bennett, Ralph M. Hainston, Julius T. Little, Richard H. Ray.

Subscription rates: United States and possessions, Canada, Cuba, Mexico, Central and South America, and Spain, \$4.50 a year, \$7.50 for two years, \$9 for three years; elsewhere, \$6.50 a year, \$11.50 for two years, \$15 for three years. Single copy \$2. Circulation manager, Marshall T. Ginn.

Member of Audit Bureau of Circulations and Associated Business Publications. Architectural Record is indexed in Readers' Guide to Periodical Literature, Art Index, Industrial Arts Index and Engineering Index.

Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

Other Dodge services: Dodge Reports and Dodge Statistical Research Service; Sweet's Files, Home Owners' Catalogs, Chicago Construction News, Daily Pacific Builder, Denver Daily Journal, Real Estate Record & Builders' Guide.

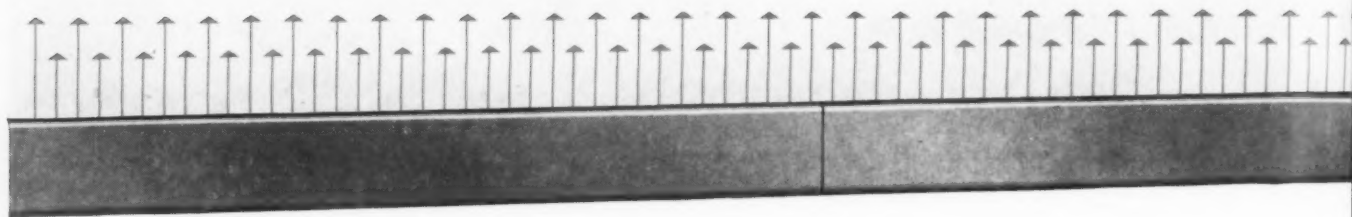
Cover: The Functions of a Learning Unit. Composition by Peter Piening; photo by Joseph W. Molitor

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NEW! Trane Unit Ventilator 40-foot blanket of **FORCED,**



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THE RECORD REPORTS

P E R S P E C T I V E S

ALAN DUNN's trenchant comment on the long series of prison disturbances (for another, see the June issue, page 26), reflects more than the rueful recognition by an unhappy denizen of a stark fact. It was the Director of the Federal Bureau of Prisons, James V. Bennett, who in his annual report this year called for more "open-type" prisons in the United States. The American Prison Association, the nationwide organization of local, state and federal prison officials, has pointed out that the much-publicized riots have nearly all occurred in the institutions which have the oldest plants. There has been a whole revolution in correctional thinking in the last 20 years; and the reluctance of the public purse—in this area at least—has prevented design and construction from catching up. There are some signs that the fortunate result of the unfortunate riots may be to provide a chance.

LET THEM HAVE ROLLS: Prefabricated housing manufacturers must move into the larger, more expensive house field to keep up with the changing patterns of housing demand, says President John C. Taylor of the Prefabricated Home Manufacturers Institute—a progression, as he describes it, from Chevrolets to Pontiacs, Oldsmobiles, Buicks and Cadillacs. No competition for architects in the Rolls area—yet.

THE MILLS OF THE GODS GRIND SLOWLY, etc.: The Federal Housing Administration has relaxed its requirements on roof slope for asphalt, wood or tile roofs from five-to-twelve to four-to-twelve. It seems only fair to note that the announcement was dated January 18 and therefore is not to be regarded as an indication of the design views of the new Administration.

A THOUGHTFUL PROFESSION—for example, architecture—might do worse than ponder one attitude of

the new Administration as expressed by President Eisenhower in his State of the Union message: "We must be strong, above all, in the spiritual resources upon which all else depends. We must be devoted with all our hearts to the values we defend. . . . As our heart summons our strength, our wisdom must direct it. . . . In this spirit must we live and labor, confident of our strength, compassionate in our hearts, clear in our minds."

BUILDING TYPES STUDY NO. XXX: The man who developed the V-2 rocket for the Nazis, now technical director of the United States Guided Missile Development Group at Huntsville, Ala., says the "space station" looks closer to feasible now than military application of atomic energy did ten years ago. In a recent address before the American Rocket Society, Dr. Wernher von Braun urged an immediate buildup of scientific efforts towards establishing such a station as an important deterrent to Soviet ambitions. It may be a while before the rocket men turn to archi-

ects for design aid, and even longer before enough practicing architects are concerned with space stations to warrant a RECORD Building Types Study; but in advance of Building Types Study No. 500 (or 5000), here-with a flash on the "program" as gleaned from Dr. von Braun's remarks: an impregnable fortress in space 1000 miles from the earth, able to circle the earth at about 50,000 mi per hr; a launching platform for missiles of the future; facilities for personnel who, armed with powerful telescopes and cameras, could inspect any spot on the earth at least once in 24 hours.

STUCK WITH STOCK PLANS? To date there hasn't been a single request for the State of Virginia's stock school plans, members of the Virginia Chapter of the American Institute of Architects were told at their recent annual meeting. The State, which has so far spent \$40,000 on the project, decided two years ago to have the plans drawn up, to be used by any city or county requesting them; the idea, of course, was "economy."

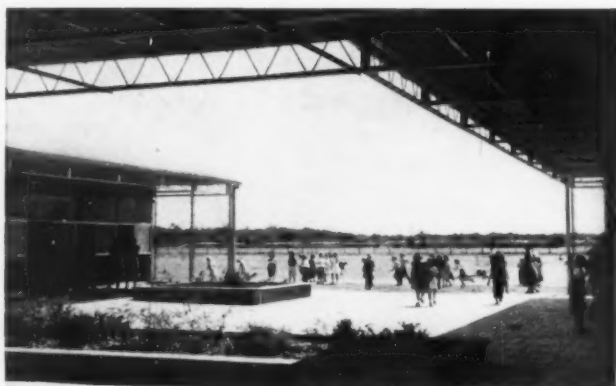


"I'm afraid the architect didn't analyze our needs—he analyzed the needs of the state!"



West Columbia Elementary School, Brazoria County, by Donald Barthelme and Associates, Architects, won First Honor Award

TEXAS ARCHITECTURE EXHIBIT WIDELY SEEN IN STATE



Two more photographs of the first-prize winner. Above, view of courtyard. Below, a typical classroom



TEXAS ARCHITECTURE — 1952, the competitive exhibition sponsored at last fall's Texas State Fair by the Dallas Chapter of the American Institute of Architects, the Texas Society of Architects and the Dallas Museum of Fine Arts, has been making the rounds in Texas ever since and but for scheduling difficulties would also have been seen at the Addison Gallery of American Art at Andover, Mass. In Texas, it has given literally hundreds of thousands outside the profession a look at the current work of the state's architects. From the Fair it went to the architects' state convention at El Paso; then to the University of Texas at Austin; Houston; Agricultural and Mechanical College of Texas, College Station; Arlington State College, Arlington; and back to Dallas. Chairman of the Dallas Chapter's Exhibition Committee is A. B. Swank Jr.

The award-winning buildings selected from 51 entries in the exhibition are shown on these pages. In addition to the First Honor Award and eight Awards of Merit there was one *Hors Concours* award to a "non-conforming entry" (not shown here), Trinity University Classroom and Administration Building, San Antonio — O'Neil Ford, Bartlett Cocke and Harvey P. Smith, associated architects.

Below: Another prize winner by Barthelme & Associates — Sweeney Elementary School, Brazoria County



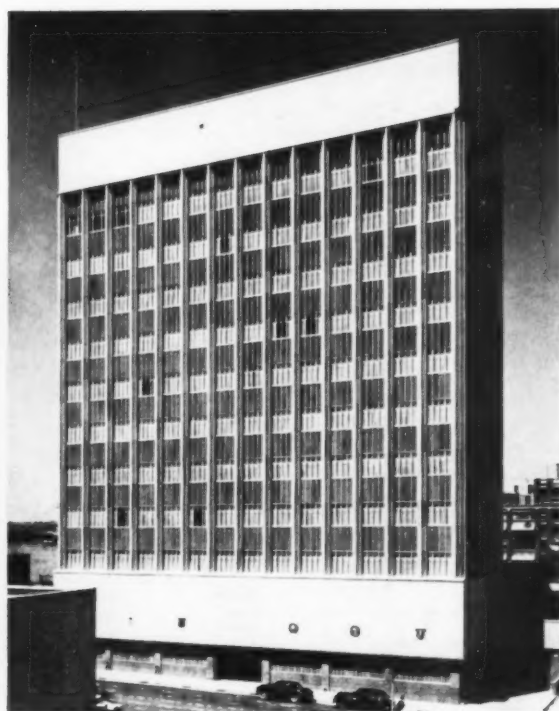
Albany Elementary School, for which Caudill, Rowlett & Scott were architects, scored in competition. Above, air view and typical classroom



More award winners: right, Employers Insurance Building, Dallas, George L. Dahl, Architects. Below, stadium for Rice Institute, Houston; Herman Lloyd, W. B. Morgan and Milton McGinty, Associated Architects



F. W. Seiders, Shoemaker-Stiles



Meisel—Dallas

Two prize-winning San Antonio houses by Milton Ryan. Above, residence of Mr. and Mrs. Duane Berry. Right, two views of house for Mrs. Lucy Dunwoody

Meisel—Dallas



Shoemaker-Stiles



Interior of house by Howard Barnstone for Mr. and Mrs. Herbert Blum, Beaumont, which also won an award

Shoemaker-Stiles



Residence of Judge and Mrs. Wilmer B. Hunt, Houston, Hamilton Brown, architect, won an Award of Merit

THE RECORD REPORTS

Gold Medal Exhibition of Architecture and Engineering Opens at Architectural League with 11 Entries; Georgia Architects Hear Hudnut; Architectural Historians Hold Annual Meeting

THE ARCHITECTURAL LEAGUE OF NEW YORK opened its 1953 Gold Medal Exhibition of Architecture, Landscape Architecture and Engineering last month with 11 entries which included eight in architecture, three in engineering and none in landscape architecture. Engineering was included as a Gold Medal category for the first time in League history. The final Gold Medal Exhibition, including the entries from the earlier preliminary exhibit of mural painting, sculpture and "design and crafts in native industrial arts" as well as the architecture and engineering work, will be held from March 9-27;

and awards in all the divisions will be announced at the final Gold Medal dinner March 19.

MEMBERS OF THE GEORGIA CHAPTER of the American Institute of Architects, holding their annual meeting in Atlanta, heard Joseph Hudnut, retiring dean of Harvard's Graduate School of Design, warn against forgetting that architecture is an art; the present status of architectural education and the present production of buildings, he said, can lead the public to think of architects as mere technicians. Edward A. Moulthrop

of Atlanta was elected as chapter president and C. Wilmer Heery of Athens as first vice president. Other new officers, all of Atlanta, are: Charles B. Altman, second vice president; Bernard B. Rothschild, secretary; J. H. Gailey, treasurer; and Herbert C. Millkey (the retiring president), director for three years.

HENRY-RUSSELL HITCHCOCK of Smith College was reelected president of the Society of Architectural Historians at the Society's annual meeting January 29-31 at Wade Park Manor in Cleveland. J. D. Forbes of Wabash College, Crawfordsville, Ind., is the new editor of the Society's quarterly *Journal*. The annual book award of the society was given to *The Architectural Heritage of Newport, Rhode Island, 1640-1915*, by Antoinette F. Downing and Vincent Scully.

AIR CONDITIONING IN SPOTLIGHT

AT HOME BUILDERS SHOW

OUTSTANDING FEATURE of the recent National Association of Home Builders Show in Chicago was the emphasis on year-round air conditioning for moderate priced houses.

A striking range of compact new low-priced units was on display at prices putting them within reach of middle income groups. Lively interest was shown in one session of the convention entirely devoted to air conditioning, and the expressions by architects and builders left little doubt that year-round air conditioning will be a major development in 1953.

Shop Talk, Clinics, Panels

The home show, held at Chicago's Hilton Hotel January 18-22, was attended by 18,000 and included an extensive exhibit of house equipment, materials and specialties.

The four-day session was crowded with clinics, shop-talk sessions, speeches and panel discussions — three or four often being held simultaneously to take care of the large attendance.

One highlight was an address by Nathaniel Owings of Skidmore, Owings and Merrill on "Improving the Design of Your Houses." He stressed the importance of site planning, told the builders not to put too much emphasis on "how much you can get for \$35 per plan." He

somewhat startled his audience with large-screen projections of novel ways to group houses, using joint service areas and communal garages.

Other sessions of the heavily-attended convention included talks by FHA and other Government officials, economists, mortgage experts and research men.

A full-sized roof truss was constructed and demounted on the platform of one of the meetings as part of a "how-to-do-it" session presided over by Leonard Haeger, director, N.A.H.B. Research Institute. "Trade-in" houses were discussed, as well as "Housing the Aged." Rehabilitation of blighted areas by private enterprise came in for extensive discussion with emphasis on the Baltimore plan, described by G. Yates Cook of the Baltimore City Health Department.

In frequent talks and panel discussions throughout the conventions, the builders

(Continued on page 362)



Above: Merit Award jury looks over some of the entries. Left to right — Irvin A. Blietz, N.A.H.B., Evanston, Ill.; Richard Bennett, A.I.A., Chicago; and Morgan Yost, A.I.A., Chicago (standing); Leonard L. Frank, N.A.H.B., Hempstead, L. I., N. Y.; Earl W. Smith, N.A.H.B., El Cerrito, Calif.; and N.A.H.B.'s research director, Leonard Haeger, who was not a juror. Below: two architect members of the convention panel on design: Nathaniel A. Owings, of Skidmore, Owings & Merrill, and Morgan Yost



THE RECORD REPORTS

DECONTROL STEPPED UP — CMP "OPEN-ENDED"

A DAY LONG AWAITED in the construction industry — and many others — arrived last month when Arthur S. Fleming, new chief of the Office of Defense Mobilization, announced on February 13 that steel, copper and aluminum producers could henceforth supply civilian producers on a free market basis after they had met defense demands.

CMP tickets for the first and second quarters of 1953 remain in force; but users are free to buy without allotments if they can find the metal. The debate continued in Washington over what (if any) "standby" controls should be established in the materials field after June 30, when the Controlled Materials Plan terminates.

"Open-ending" of the Controlled Materials Plan was the first relaxation of controls by the new Administration in the materials and production area; but it was part of a sweeping series of decontrol actions that freed most "cost-of-living" items from price controls.

How much the new freedom meant to the construction industry was largely dependent on steel supplies. The steel industry, while it took cognizance of such imponderables as a possible steel strike, international tensions, Korean developments, and a buying spree, appeared confident that by the second quarter of the year it would have increasing quantities of steel to sell on the open market.

STUDY FEDERAL BUILDING FOR POSSIBLE CUTBACKS

THE ADMINISTRATION'S economy drive last month reached construction with Budget Director Joseph Dodge's order calling for a review of all federal construction projects and a possible cutback of some going government construction.

A few days later, Secretary of Defense Charles Wilson ordered the awarding of all military construction contracts suspended until the budget review was completed.

Agency heads were given until March 2 to prepare reports on all construction projects authorized in fiscal 1954 and starts for which money was appropriated for fiscal 1953.

NEEDED: \$10.7 BILLION IN NEW SCHOOL BUILDINGS — AND PEAK ENROLLMENTS ARE STILL TO COME

THE SECOND PROGRESS REPORT on the U.S. Office of Education's School Facilities Survey presents the current need for school facilities in the United States in figures that are staggering, whether they are read in terms of required classrooms, estimated cost, or sq ft of school building space. The report gives the total all three ways: 325,000 classrooms, \$10.7 billion, and 708 million sq ft.

These figures reflect present needs only; they will be out of date by the time the new school year starts next fall; and the report notes that public elementary and secondary school enrollment will reach new high peaks in the years ahead.

Secondary school needs are affected in a special way, because the records show more pupils these days are staying in school through the secondary grades, thus creating not only a need for more secondary school facilities but for more specialized facilities — for industrial arts, for home economics, for physical education.

The shortage is not only a matter of what the report calls the "improved holding power" of the schools nor even of enrollment increases, though 155,000 classrooms are now required to relieve overcrowding alone. Five other factors are listed: extension of the school pro-

gram downward through vast increases in kindergarten enrollment and upward through postgraduate and adult education courses; changes in instructional patterns; reorganization of school districts — the "central school" movement; mobility of population; and the school construction backlog.

Most of these factors have multiplied design problems for architects as well as shortages of appropriate facilities for pupils — none more importantly than the changing pattern of instruction.

On that score, the report summarizes: "Pupil regimentation into fixed rows of seats for book-learning and training drills during previous decades required a minimum of space and facilities. As teaching methods changed to provide greater pupil participation — more learning by doing — there came a definite need for schoolroom and plant facilities to house the improved programs. The demands for floor areas per pupil in classrooms have about doubled during the past 20 years."

How to pay for the school buildings so urgently needed is the big question, since under current laws states and local school districts could provide only \$5.8 billion of the \$10.7 billion required. The report says "new and substantial resources" will have to be tapped.



— Drawn for the RECORD by Alan Dunn



At the Virginia A.I.A. annual convention. Far left: Middle Atlantic Regional Director Cy Silling with Thomas FitzPatrick, now head of University of Virginia School of Architecture, and Marcellus Wright Jr., Virginia A.I.A. nominee for regional director to succeed Mr. Silling. Left: Retiring President Louis Scribner; the new president, Charles Justice; Mr. Wright; Richard Meagher, just elected secretary

CHARLES C. JUSTICE HEADS VIRGINIA A.I.A.; MEMBERS HIT STATE TAX ON THEIR EMPLOYEES

ELECTION OF NEW OFFICERS and the voicing of vigorous protests against assessment of professional license taxes on architects' employees by the state marked the recent annual convention of the Virginia Chapter of the American Institute of Architects.

Charles C. Justice, of the Richmond firm of Ballou & Justice, is the new chapter president. Mr. Justice succeeds Louis L. Scribner, who had served for two years. Other new officers: J. Russell

Bailey, Orange — vice president; Richard L. Meagher, Roanoke — secretary; and Paul D. Woodward, Norfolk — treasurer.

Marcellus Wright Jr. of Richmond was nominated for regional director of the A.I.A. Middle Atlantic region to succeed Cyrus D. Silling of Charleston, W. Va., whose term expires in June.

In the opening session of the two-day meeting, the professional license tax question held the spotlight. The em-

ployes involved are persons who have satisfied state professional requirements but are not working as architects in their own right. Similar employees in other professions are not required to pay the professional tax, the Virginia architects pointed out.

It is not the state license tax — a flat \$25 annual fee — which drew the real objection. Because the state is assessing such a tax, Virginia cities feel they have a legal right to assess such a tax also, and architects' employees in certain cities are required to pay a flat fee — from \$25 to \$200, depending on the city — plus one per cent of their yearly income.

A comprehensive report of these tax assessments was presented by Charles A. Pearson Jr. of Radford and Louis P. Smithey of Roanoke, where preparation is being made for a possible court test case. It is anticipated that the chapter will retain legal counsel to determine the legal propriety of the State Tax Commissioner's decision to assess revenue license taxes against "mere employees of duly licensed businesses."

Silling Attends Meeting

Regional Director Silling presented the preliminary draft of bylaws for a regional council for the district, and these were approved by the convention. At the closing banquet session, Mr. Silling made his final address before the chapter as regional director, praising the chapter's successful legislative work in holding state bureaucracy in architecture and engineering to a "reasonable minimum."

New Dean at Virginia

The convention also heard an address on architectural education by the new head of the School of Architecture at the University of Virginia, Thomas K. FitzPatrick, formerly of the Iowa State College Department of Architecture.

COMMITTEES NAMED FOR 1953 SEATTLE CONVENTION; HOST GROUP PICKS A SYMBOL: INDIAN THUNDERBIRD

PREPARATIONS for the 85th annual national convention of the American Institute of Architects June 15-19 at the Olympic Hotel in Seattle are in full swing — and this year's convention will provide at least one innovation, a "symbol," in the form of a Siwash Indian thunderbird (see page 20).

Northwest Regional Director Irving G. Smith, 1953 convention chairman, and Waldo Christenson, chairman of the Steering Committee of the Washington State (host) Chapter, have organized their committees; settled on a theme, with the approval of the A.I.A. Board of Directors; and, at a series of meetings last month with A.I.A. Convention Manager Arthur B. Holmes of the Washington, D. C., staff, approved a preliminary program.

Stemming from the Northwest architecture theme, "New Country — New Architecture," the major emphasis at the convention will be on the forest resources of the Northwest and their ap-

plication to the building industry. A full day's tour of a great logging operation will be followed by three seminars on wood — "The Forest," "Fabrication in the Mill" and "New End Products." Other seminar subjects will be "Oriental Art — Its Influence on Occidental Art and Architecture," and "Condensation in Buildings."

Members of the chapter Steering Committee are: John S. Detlie, decorations; Hugo Osterman, finances; Victor N. J. Jones, housing; James J. Chiarelli, arts & crafts exhibition; J. Emil Anderson, ladies' liaison; Wendell Lovett, student activities; George W. Stoddard, special tours; Paul A. Thiry, Fellows luncheon; B. Marcus Priteca, entertainment.

Also William J. Bain, reception; Roger J. Gotteland, foreign guests; J. Lister Holmes, allied exhibitions; Robert H. Dietz, secretary; John T. Jacobsen, A.I.A. — Producers' Council — A.I.A. Products Exhibit.

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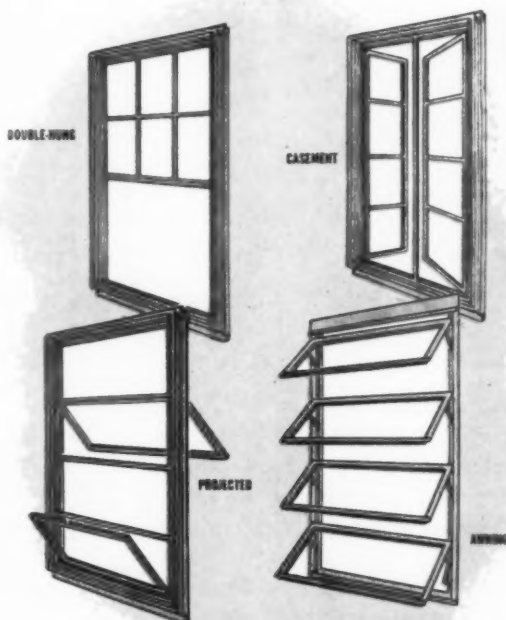
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THE RECORD REPORTS

PICTURES IN THE NEWS



College Art Association and Society of Architectural Historians held 41st annual joint national convention at Cleveland, toured General Electric Lighting Institute as one feature. Above: Art Association President S. Lane Faison, Williams professor; Henry-Russell Hitchcock, historians' president; and Karl Staley of G-E



At the Myers Park High School conference on school design reported on pages 165-189 of this issue: Elmer Garinger, city school superintendent; Architect J. D. Stenhouse, Charlotte; N. L. Engelhardt Jr. of the New York consulting firm of Engelhardt, Engelhardt & Leggett; John French, Myers Park principal; Frank G. Lopez of the RECORD; William Curtis, Wallingford, Conn., superintendent of schools; Stanton Leggett; Joseph W. Molitor, architectural photographer; Architects Alonzo Harriman, Auburn, Me., and John McLeod, Washington

Ed Miley



At the International Cut Stone Contractors, and Quarrymen's Association Houston convention, one of the major speakers was Frank Lloyd Wright—seen here with Harwell Hamilton Harris, University of Texas School of Architecture director, who introduced him, and again in a familiar and favorite context, surrounded by students. Leaning over the speaker's table is Karl Kamrath of Houston

Roger Dudley



Hardworking members of the Washington State Chapter's Steering Committee for the 1953 A.I.A. national convention in Seattle: (Standing) Chairman Waldo B. Christenson, John S. Detlie, Hugo Osterman, Victor N. J. Jones, James J. Chiarelli, J. Emil Anderson, Wendell Lovett. (Seated) George W. Stoddard, Paul A. Thiry, B. Marcus Priteca. Below: thunderbird convention emblem surrounded by (standing) A.I.A. Northwest Regional Director Irving Smith, 1953 convention committee chairman; John S. Detlie, designer of the emblem; Arthur B. Holmes, A.I.A. convention manager; Gerald Hoeck, chapter P.R. counsel; (seated) Mrs. Christenson, Ladies' Guild chairman; and Mr. Christenson

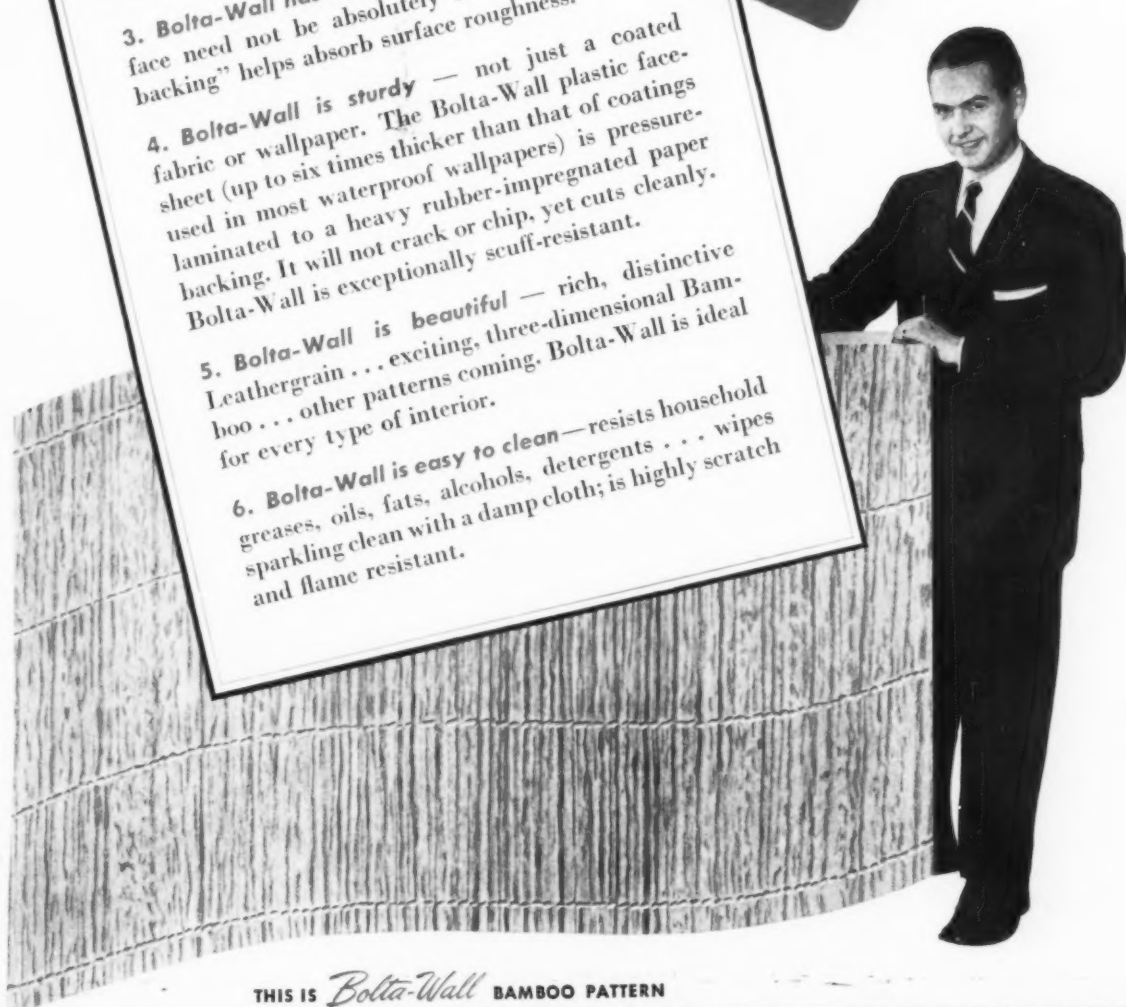
Roger Dudley



Building craftsmen honored—West Virginia A.I.A. annual awards: chapter president Irving Bowman; award winners Oscar Fascato, terrazzo and mosaic worker, Meshack Waugh, plumber and steamfitter, Sherman Lewis, carpenter; Paul Vaughn, chapter vice president

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TEN-STORY BUILDING IS COMPLETED FOR FIRST NATIONAL BANK OF TEMPLE, TEX.

THE NEW BUILDING for the First National Bank of Temple, Tex., provides eight floors of office suites in addition to the bank's own quarters on the first two floors. Banking facilities include a drive-in depository with two windows. Wyatt C. Hedrick of Fort Worth was architect and engineer.

Hot-weather comfort was a prime consideration in the design. The plan is

a T-shape so placed on the site that a portion of the south wall and nearly all the west wall can be windowless and still all of the offices have windows. The south wall is further protected by cantilevered canopies at each floor. Green-tinted heat-absorbing glass is used for all windows. The air conditioning system is zoned to maintain a constant temperature and each floor has its own air-

handling unit. It is possible to operate these units independently of each other.

At the main entrance, glass walls open the main banking room to the view of passersby. For easy access of customers, the entrance to the safety deposit department has been placed near the main entrance; and its facilities include, besides the usual coupon booths, a large "family booth" where families may meet with their lawyers when they wish. The interior of the banking room (photos at right above) is finished in walnut paneling.

On the second floor are a lounge, recreation room and dining room for employees, a completely equipped kitchen and private dining rooms as well as additional space for banking departments. There are approximately 145 office suites on the third through the tenth floors.

Structure is basically concrete frame; steel framing was, however, used on the first floor, mainly to reduce the size of columns in the banking rooms and eliminate some columns from the lobby. With the horizontal gliding continuous windows, it was possible to carry the brick work on a continuous shelf and eliminate intermediate mullions, thereby keeping masonry work in horizontal lines and avoiding masonry labor around windows.

The sign, 130 ft high with a 55-ft beacon, is made of yellow translucent acrylic plastic, with green four-ft-high letters of the same material. The letters have been subdued or left opaque and it is the background which is lighted at night.

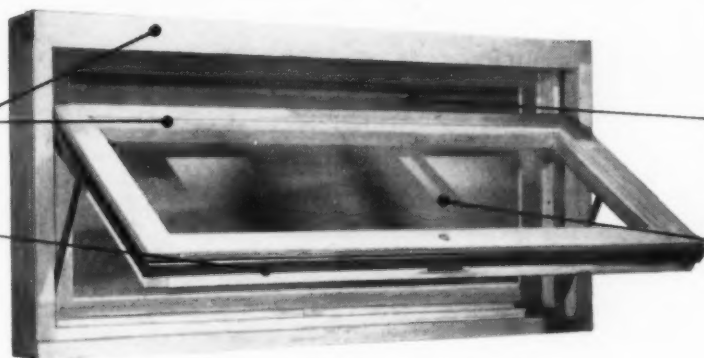


Drive-in bank: Industrial National Auto Bank, at 8064 West Vernor Highway in Cleveland, has four drive-up windows, enclosed guard station and provision for a future walk-up window. Space was allowed for two cars off the street in addition to four cars at teller windows. Right driveway is wide enough for rear car to pass in case front car is delayed. Louis G. Redstone, A.I.A., was the architect

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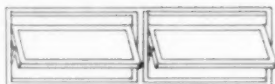
Stainless steel weather-stripping around all sides of sash.



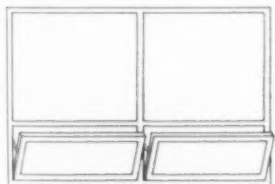
Zinc-coated, rust-resistant 16-mesh screen in toxic-treated pine frame, removable from inside.

Sash can be fixed or ventilating. Specify with or without storm sash.

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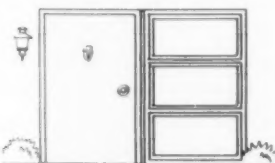
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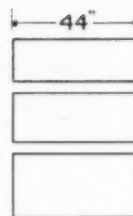
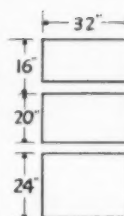
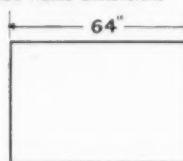
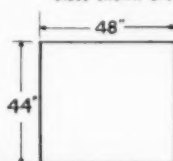
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Convention shots from Ontario Association of Architects' 63rd annual meeting. At left is newly-elected president of the Association, Gordon S. Adamson. In center photograph, retiring president, Earle L. Sheppard, right, chats with Roger Allen, the architect-philosophizer of Grand Rapids, Mich., guest speaker. Two newly admitted members, Mr. and Mrs. James H. Christie, are at right. Mrs. Christie is one of five women members of the association

ONTARIO ARCHITECTS HOLD 63RD ANNUAL MEETING

A RECORD TOTAL of 248 members attended the 63rd annual convention of the Ontario Association of Architects at the Royal York Hotel in Toronto, January 16 and 17. During the two-day meeting they elected new officers and saw 64 architects formally admitted to membership, bringing the Association's total membership to a high of 611.

Council officers elected for 1953 include Gordon S. Adamson, Toronto, president; Earle L. Sheppard, Toronto,

past president; Alvin R. Prack, Hamilton, vice president; Robert D. Schoales, London, treasurer; and George D. Gibson, Toronto, George Y. Masson, Windsor, and William H. Gilleland, Ottawa, councillors.

The varied program for the convention included addresses by Col. J. F. Lyle, chairman of the Trade and Industry Council of Canada's Provincial Governments; Carl Feiss, chief of the U. S. Housing and Home Finance

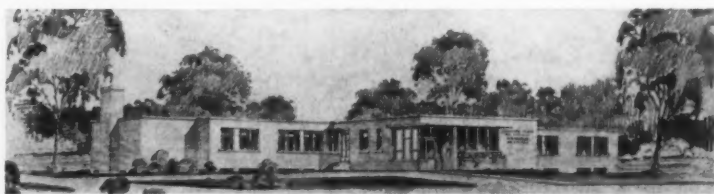
Agency's Community Planning and Development Branch, and Roger Allen, Grand Rapids, Mich., architect, author and humorist. In addition, there was a panel discussion on methods by which school construction costs could be reduced and a seminar on regional aspects of the St. Lawrence Seaway. The school construction discussion was led by Anthony Adamson, professor of town planning at the University of Toronto and newly-elected Reeve of Toronto Township. Harry B. Tour, chief architect of the Tennessee Valley Authority, led the St. Lawrence seminar.

An innovation at the convention this year was a photographic display of Ontario industrial buildings completed in the last five years. Another exhibition showed newest developments in building materials and techniques, providing a preview of products which architects may soon be employing. The exhibitors presented the association with two checks earmarked for the University of Toronto's School of Architecture and the School of Architectural Technology at Ryerson Institute. This money is to be used to assist promising students.

Attention was also centered on students at the annual convention dinner, at which awards were presented:

Kenneth Henry Foster, Toronto, architectural silver medal; Yusing Jung, Toronto, O.A.A. 1952 scholarship; Raymond Moriyama, Hamilton, O.A.A. proficiency prize for building construction studies; and Robert H. Tyndall, Fort Frances, O.A.A. general proficiency prize for a graduate from Ryerson School of Architectural Technology.

(Continued on page 30)



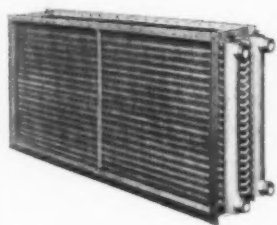
Two new Ontario buildings: Above, Memorial Hospital, Carleton Place, Ont. Architects are Drever & Smith, Kingston. The building is typical of many smaller hospitals serving Ontario towns and surrounding districts. Below; Lakeshore Community Combined YM-YWCA, New Toronto; Murray Brown & Elton, Architects



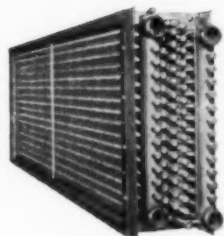
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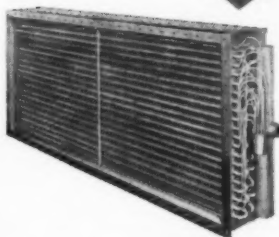
PRODUCTS



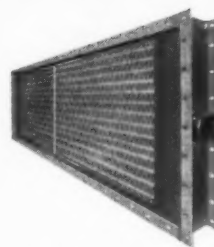
WATER COIL



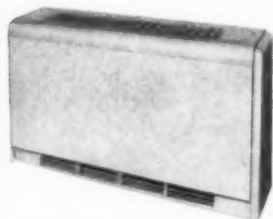
CLEANABLE TUBE WATER COIL



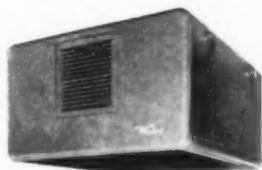
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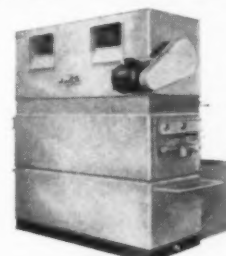
SEASONMAKER (FLOOR)



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AIR CONDITIONER
(Suspended Model)



AIR CONDITIONER
(Floor Model)



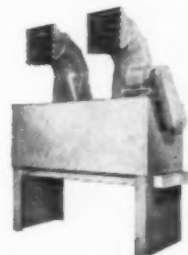
HORIZONTAL UNIT HEATER



DOWN FLOW UNIT HEATER



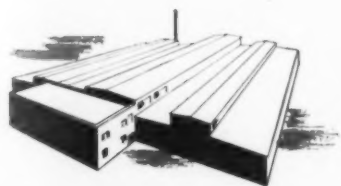
BLOWER TYPE UNIT HEATER
(Suspended Model)



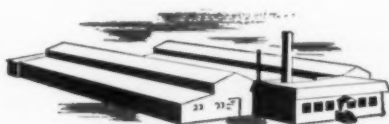
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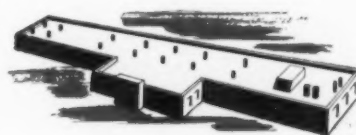
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PLANT 2—1729 Broadway N. E.
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PLANT 3—4th and Park Ave.
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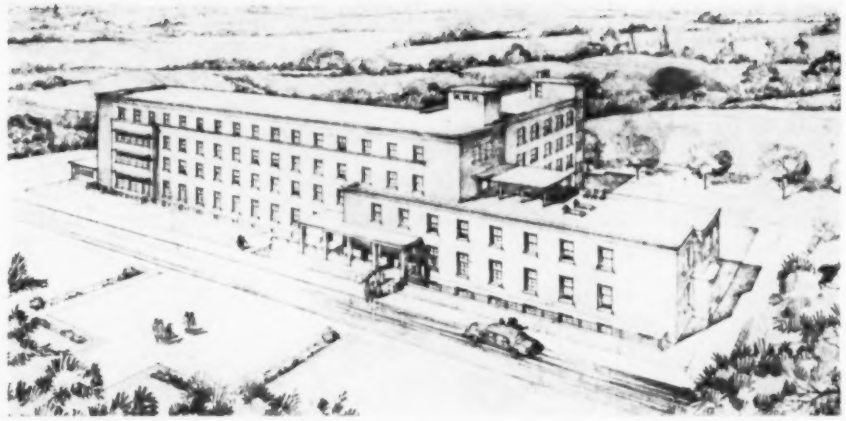
THE RECORD REPORTS

CANADA

(Continued from page 26)

Construction Award Slump Continues in January

The first month of 1953 continued the trend established last year toward a smaller volume of construction, with total value of construction contract



South Waterloo Memorial Hospital, Galt, Ont., will cost an estimated \$2 million. Architects, Allward & Gouinlock.





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awards for January registering only \$99,554,500, 34 per cent below the total for January, 1952. A falling-off in engineering work in the western provinces is cited as the most important factor in the decline.

Compilations by MacLean Building Reports Ltd. show a total of \$1,812,177,600 for construction contract awards in 1952. This was 21 per cent below the 1951 level.

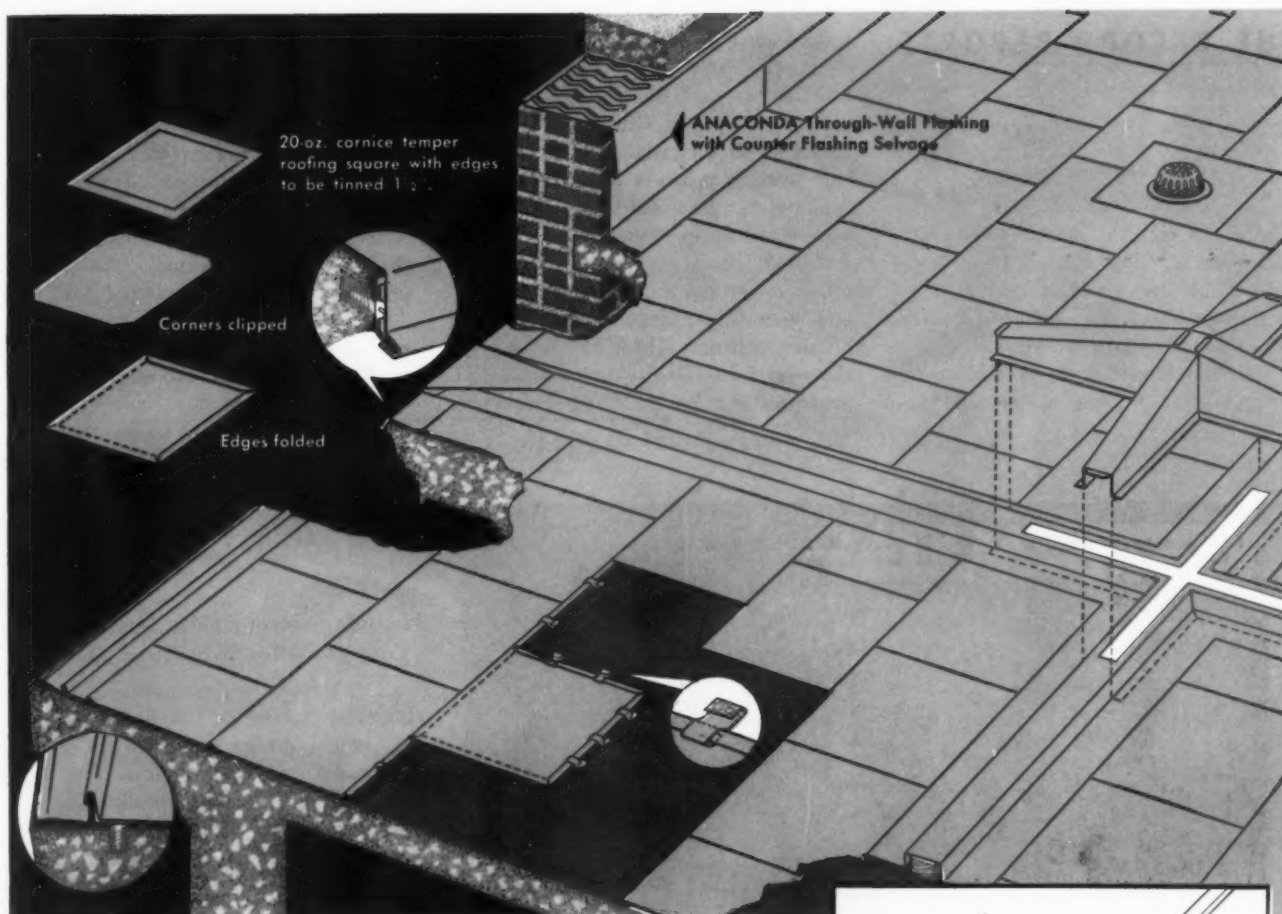
Biggest contract awards for this January were as follows: apartment projects, Halton County, \$1,000,000; hospital addition, Toronto, \$1,750,000; summer cottage development, Haliburton, \$2,000,000; insurance office building, Toronto, \$8,000,000; soft drink factory, Montreal, \$1,500,000; offices, Montreal, \$2,000,000; department store, Burnaby, B. C., \$6,000,000; refinery, Kamloops, B. C., \$2,400,000; grain elevator, Port Arthur, \$1,500,000; and a shopping center, Montreal, \$2,500,000.

Contractor Chief Predicts 1953 Construction Rise

In a forecast made before his recent retirement as president of the Canadian Construction Association, P. G. Wilmut has predicted that construction volume in Canada in 1953 may exceed the 1952 level.

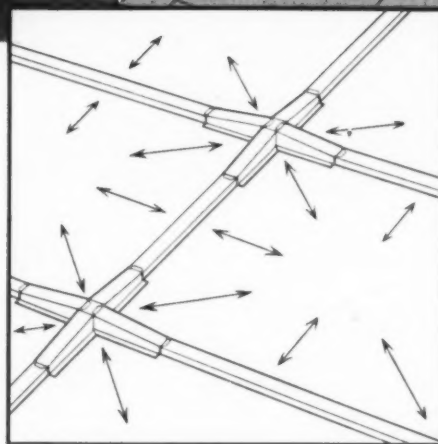
"The present defense construction program is expected to reach its peak this year," Mr. Wilmut noted, "and the main efforts of the construction industry will be directed toward its speedy completion and that of vital civilian projects, such as industrial developments associated with the preparedness program, essential housing, highways, etc.

(Continued on page 32)



HOW TO PROVIDE FOR EXPANSION

in watertight, flat seam copper roofing



Flat roofing presents a special expansion-contraction problem because seams must be soldered to be watertight—and yet the metal should be allowed to expand or contract freely with changes in temperature.

This drawing illustrates how this problem can be met by dividing the roof into rectangular areas approximately 40-ft. square, separated by expansion battens

with expansible intersections. This permits contraction or expansion of the copper to or from the center of each rectangle without causing excessive stress.

Note the construction of the expansible cover which caps the intersection and is soldered to the expansion battens. Note, also, the methods of finishing the roof edge for various types of building design.

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THE RECORD REPORTS

CANADA

(Continued from page 30)

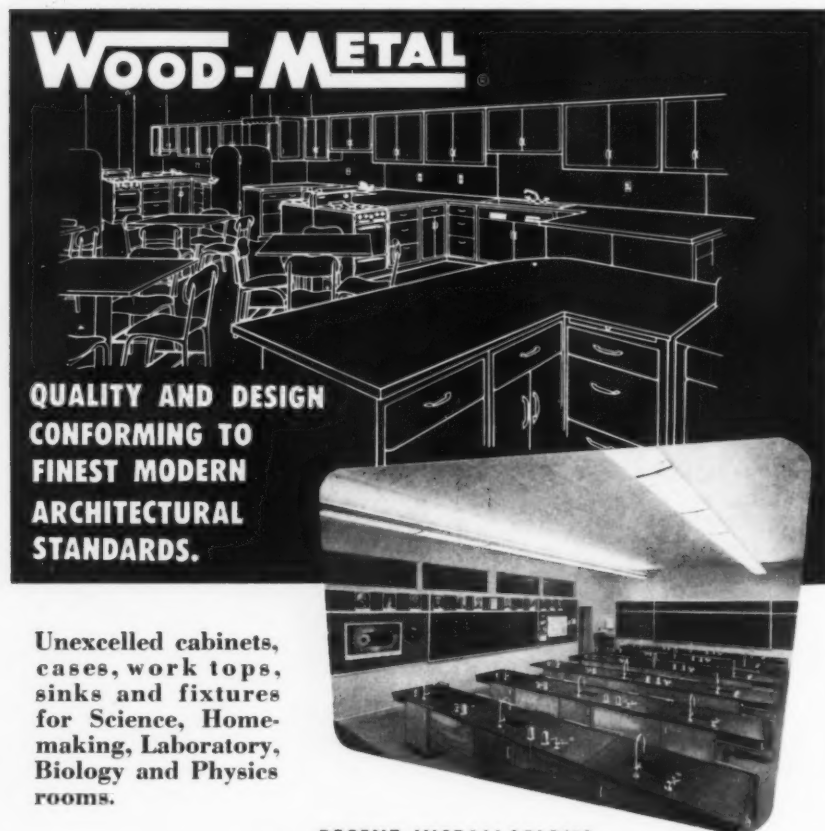
The recent removal of steel restrictions and deferred depreciation regulations will enable the construction of commercial buildings on a far greater scale than during the last two years."

With specific reference to the housing program, Mr. Wilmut stated that de-

spite a considerable increase in activity during the latter half of 1952, the house-building section of the construction industry was still working below capacity levels. Describing Canada's post-war housing program as a remarkable achievement, he noted that the production record set in 1946-50 had not been paralleled on a comparable basis by other countries including those that had undertaken large-scale subsidized housing schemes. However, he added, the record has been slipping since the peak year of 1950. Mr. Wilmut cited the

more liberal credit arrangements available in the United States as a principal factor in the relatively greater house-building program being carried on there.

"The aluminum development at Kitimat, B. C., the Quebec-Labrador iron project and the hydro development at Niagara Falls currently rank as the nation's largest individual construction projects," the C.C.A. head pointed out. "As yet," he said, "it is not known to what extent work on the St. Lawrence Seaway project will take place in 1953. Its contribution to Canadian economic development is difficult to overestimate and it is hoped that the necessary international agreements may soon be completed, thus permitting an early start on the work."



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House Competition Series Launched by Magazine

The *Canadian Home Journal* has announced "Home 53," the first of a series of annual design competitions to be sponsored under its auspices. The contest will offer awards totalling \$2500. First prize is \$1200, second prize \$750 and third prize \$250. In addition, there will be three honorable mentions of \$100 each.

Award jury for the competition will be composed of D. W. G. McRae (professional adviser), Prof. Kent Barker, John C. Parkin and Mary-Etta Macpherson.

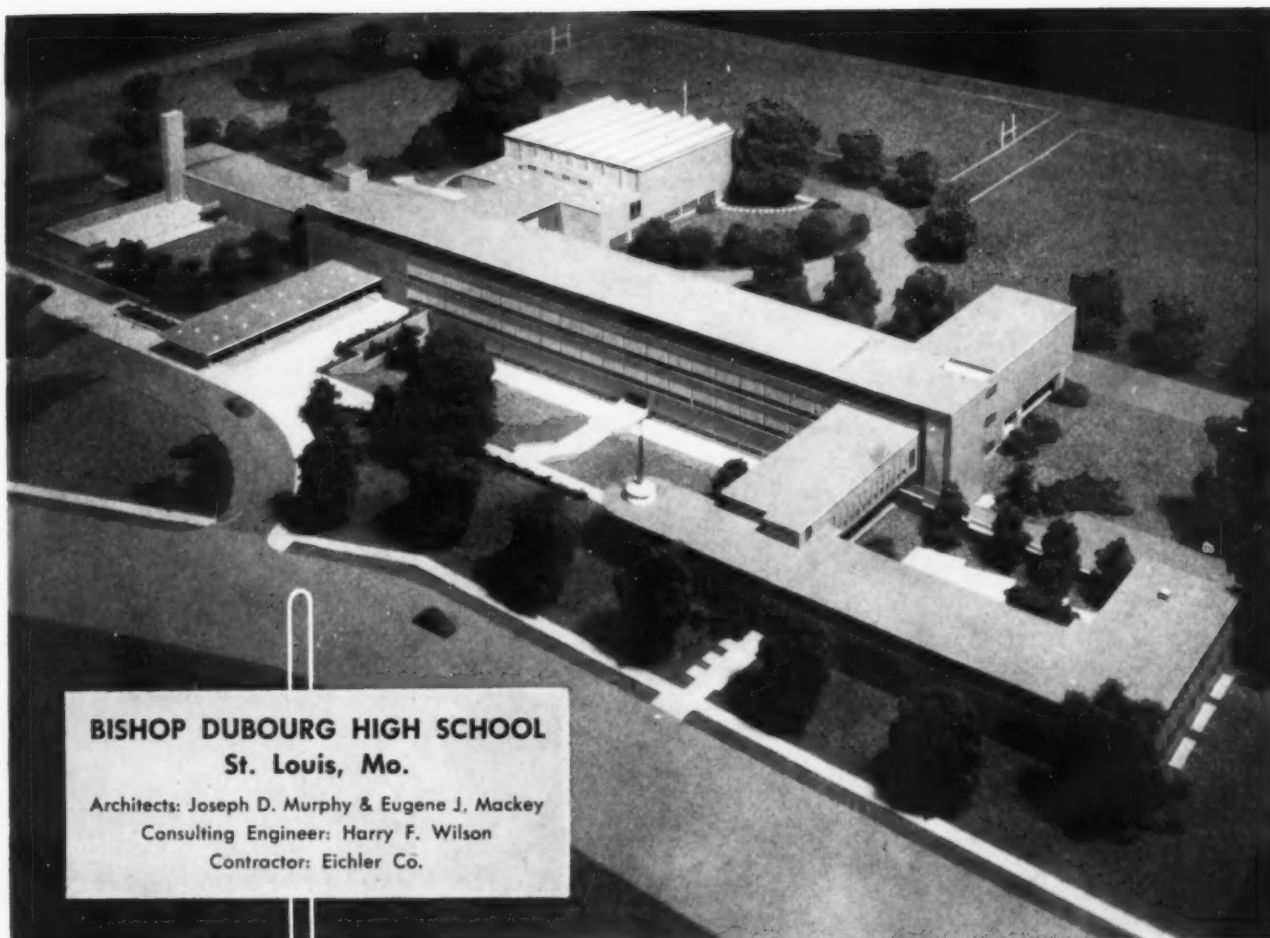
Engineer Enrollment Up In Canadian Schools

If the current trend in engineering enrollments continues, partial relief for the shortage of engineers in Canada's expanding industries may be expected in a few years, according to Milton F. Gregg, Minister of Labor.

Mr. Gregg based his statement on a report issued by the Executive and Professional Division of the National Employment Service. This report showed new registrations in engineering at Canadian Universities totalled 2714 in 1952 compared with 1852 in 1951 and 1649 in 1950.

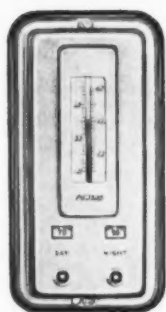
Of the 2714 who began their engineering studies in 1952, it is estimated that not more than 2000 to 2200 will continue until their graduation, since experience has suggested that a 20 to 25 per cent loss can be expected over a four-year period as a result of drop-outs, failures, changes to other courses and other reasons. Even though the number ex-

(Continued on page 36)



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Consulting Engineer: Harry F. Wilson
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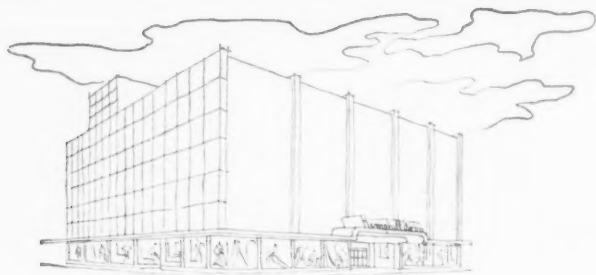
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Architect:

Haynes & Kirby

General Contractor:

Robert E. Maxey

Acoustical Contractor:

Williams-Moore Company

No compromise with either beauty or efficiency was the goal for the restaurant in the Hemphill-Wells Company store. That's why architects Haynes & Kirby needed an acoustical material that would effectively quiet the sound of voices and dishes and provide distinctive beauty at the same time.

The architect's choice was an attractively fissured, mineral wool tile—Armstrong's Travertone. In addition to providing acoustical efficiency and beauty, Travertone also offered complete fire safety. Time was saved and cost were reduced by cementing the tiles directly to the brown coat of plaster. Because Travertone is easy to cut, scribbing and fitting it to the many angles and curves of the ceiling area presented no serious problems.

Armstrong offers a complete line of acoustical material and each product has special features to meet any sound conditioning need. Your Armstrong Acoustical Contractor will be glad to give you free, expert advice. For the free booklet, "How to Select an Acoustical Material," write Armstrong Cork Company, 2403 Stevens Street, Lancaster, Pennsylvania.



Travertone's excellent light reflectivity adds to the comfort and beauty of the store's restaurant.

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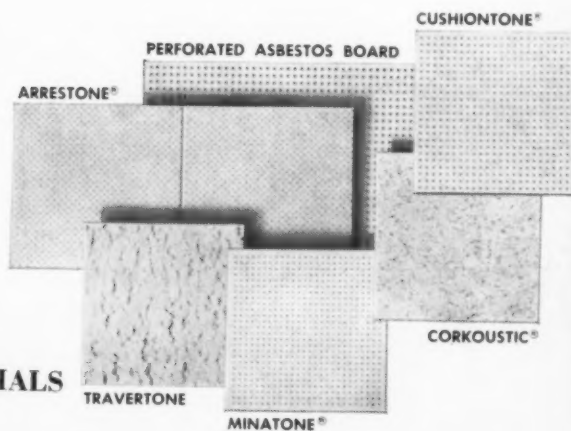


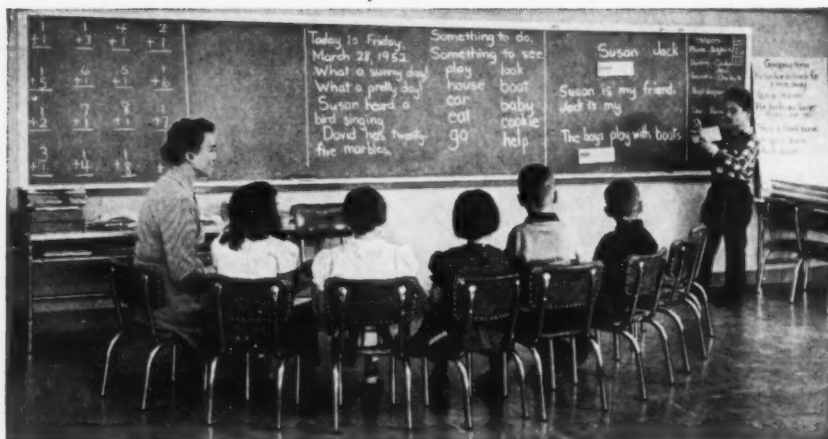
Ease of installation with recessed lighting and air-conditioning systems was an important factor in Travertone's selection.



Travertone's high acoustical efficiency reduces irritating noise levels at this busy lunch counter.

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In fact, Armorply Chalkboard is so durable, it's *guaranteed for the life of the building*.

These are the reasons why architects and school board members chose Armorply Chalkboard for this up-to-the-minute building. But there are others, too:

Armorply's chlorophyll green color, selected by leading authorities as the most satisfactory color for classroom use, has higher reflectivity and intensity values. It's so easy to read from and easy on the eyes, too.

It also takes chalk beautifully... tests prove it *cannot* choke with chalk... so it's easy to clean and never needs resurfacing.

No broken nails or strenuous pushing to post bulletins either. Armorply Chalkboard's porcelain-on-steel construction permits easy, neat, trouble-free posting with the use of small permanent magnets.

One school authority enthusiastically reports: "We have found this chalkboard to be superior to any other chalkboard." A school principal writes: "We are using your board in one classroom and plan to install it in four more. It has proved to be completely satisfactory."

If you're planning a new school building or the modernizing of an old one, investigate research-developed, classroom-tested Armorply Chalkboard. Write for complete information... today.

Armorply Chalkboard is sold only by distributors.



UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 36, N. Y.

Largest Plywood Organization in the World

*Porcelain enamel surface produced by the Bettinger Corporation

THE RECORD REPORTS

CANADA

(Continued from page 32)

pected to graduate might not be sufficient to take care of all demands, the Minister explained, it still is an indication of increasing interest in engineering on the part of Canadian youth.

The 1952 total of new registrations is close to the number which should normally be expected. In 1945, 1946, and 1947 classes were swollen by enrollment of veterans and totaled, respectively, 4100, 5985 and 3623.

Architecture Festival Is Big Week in Vancouver

Architecture Festival Week, held recently in Vancouver, featured exhibitions at the Vancouver Art Gallery and the University of British Columbia's art gallery.

"Design in Architecture," the show at the Vancouver gallery, included work done by the U.B.C. School of Architecture and submissions for Massey Medals Awards.

At the university gallery there was a display of thesis projects from Canadian schools of architecture and an exhibition of the work of Richard J. Neutra. Mr. Neutra delivered a lecture in conjunction with the latter exhibition and participated in informal discussion with architectural students.

The Vancouver Gallery's show was officially opened by a group of dignitaries which included John Wade, president of the Architectural Institute of British Columbia.



Above: unit of apartment project, Peter Caspari, architect, to occupy an entire Toronto block, bordered by Wood, Alexander, Church and Yonge Streets. Cost is estimated at \$8 million, and the project will accommodate approximately 2000 people in four 15-story buildings



today's finest fluorescent luminaires

director by Smithcraft

For a truly sound investment of lighting dollars, the Smithcraft Director is in a class by itself! Installed in literally thousands of banks, stores, schools, offices and similar locations across the United States, the Director is actually a "lighting element" that provides highest quality illumination through large unobtrusive **area of light** source. (The eight-foot, six-light Director provides more than 24 square feet of light source.) Here is ideal lighting that blends with overhead architecture without imposing on the eye the dominance of conventional fixture design.

More than just another lighting fixture, the Smithcraft Director, through its distinctive appearance and superior lighting qualities, brings many **plus** values wherever it is installed. In banks, insurance companies and public buildings of all kinds, it lends an atmosphere of substance and dignity; in offices it contributes greatly to efficiency; in stores it adds to the general selling appeal of both the store itself and the merchandise it sells. **There is no finer lighting investment.**

The Smithcraft Director is available in sixteen different units — for Bi-Pin and Slimline Lamps — with louver shielding of 35° crosswise, 25° lengthwise or with deluxe louver shielding of 40° crosswise, 35° lengthwise. There is a unit to fit the needs exactly of any installation.

For evidence of the superior lighting qualities of the Smithcraft Director, send now for the new eight-page Director folder incorporating the results of comparative tests conducted by one of the nation's outstanding utilities, a leader in lighting.

America's finest fluorescent fixture

Smithcraft
LIGHTING DIVISION
CHelsea 50, MASSACHUSETTS



... in buildings with **Nepcoduct**
telephone and electric
light and power outlets
are everywhere!

Modern offices are *truly* flexible when Nepcoduct is in the floor.

With this convenient steel raceway system, desks and offices can be moved at will to increase efficiency, improve office layout. Wherever the new location, Nepcoduct brings light, power, communication, signal and telephone circuits to the floor surface. No need to cut into building structure for every move.

Tenants like Nepcoduct because outlets can be located easily, quickly, with no interruption of office routine. Building owners like the economical maintenance it allows. Architects and builders like its adaptability to any type of building, any type floor construction.

Nepcoduct is the *standard* underfloor wiring system—steel for permanence, grounded for safety.

For life-long flexible wiring, be sure that Nepcoduct is in *your* plans—for new construction or modernization. Write today for the Nepcoduct catalog.

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THE RECORD REPORTS

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.		Residential	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel	
	Brick	Frame		Brick and Concr.	Brick and Steel			Brick	Frame
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6	92.5
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8	178.8
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7
1951	273.2	271.3	263.7	265.2	262.2	212.8	214.6	204.2	202.8
Oct. 1952	279.0	275.7	274.3	276.4	274.1	221.1	223.7	216.2	212.7
Nov. 1952	277.9	274.3	274.1	276.3	273.8	220.4	222.8	216.1	212.6
Dec. 1952	277.7	274.1	273.8	276.1	273.6	220.3	222.6	215.7	212.7
Dec. 1952	124.9	123.9	% increase over 1939		109.5	107.0	110.3	% increase over 1939	
						155.3	167.9	126.8	118.4
									130.0

ST. LOUIS

SAN FRANCISCO

1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1
Oct. 1952	260.2	253.2	253.4	259.6	253.8	251.3	246.2	248.3	251.4	252.8
Nov. 1952	259.5	252.3	253.7	259.5	253.6	249.9	244.4	248.0	251.2	252.4
Dec. 1952	259.5	252.3	253.7	259.5	253.6	249.9	244.4	248.0	251.2	252.4
Dec. 1952	% increase over 1939					% increase over 1939				
	135.5	135.8	115.0	116.6	113.1	136.6	146.1	111.2	106.1	116.7

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95
(both indexes must be for the same type of construction).
Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

selects offices



Here's what Mr. Bezy says about Cushionlok: "In planning the Pacific Mills offices we wanted to provide a continuous flow of attractive carpet to introduce visitors to these rooms.

"We wanted this large area to be comfortable and pleasant for these visitors.

"It was our objective to use a floor covering which combined beauty and durability, and one that provided *quietness*.

"That's why we chose Bigelow Cushionlok.

"We have found that Bigelow Cushionlok Carpet absorbs noise and greatly reduces voices and other distracting sounds constantly in evidence in a show and sales room.

"Cushionlok is hard-wearing with tough fibres, available in a wide range of colors, and the name of Bigelow behind the carpet means top quality."



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Beauty you can see . . . quality you can trust . . . since 1825

Bigelow sales offices are located in the following strategic cities: Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N.Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Dallas, Tex.; Denver, Col.; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Milwaukee, Wisc.; Minneapolis, Minn.; New York, N.Y.; Philadelphia, Penna.; Pittsburgh, Penna.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Hartford, Conn.; High Point, N.C.

REQUIRED READING

DESIGN AND CONSTRUCTION OF THE GENERAL HOSPITAL

Design and Construction of General Hospitals. By United States Public Health Service. Published by F. W. Dodge Corporation (119 West 40th St., New York, N. Y.) in collaboration with Modern Hospital Magazine. 1953. 8¾ by 11½ in. 240 pp., illus.

REVIEWED BY EMERSON GOBLE

THE REASON for this book would soon be clear to anybody who visited Marshall Shaffer's office in the U. S. Public Health Service and saw the vast quantities of assorted pieces of hospital literature going out to architects and hospital administrators the world over. There was obvious need for a book assembling the hospital planning material of this office. This is that book.

Shaffer's office has become, in the last ten years, a sort of center of hospital planning, not because he and his staff of architects sit as arbiters (though in a

sense they do), but because among them they have focused all of the research of several divisions of the Health Service and other organizations, and translated it into graphic suggestions for architects. This background information, roughly paralleling the pre-planning research an architectural office might do, or a hospital board, has appeared in magazines, notably *ARCHITECTURAL RECORD*, *Hospitals* and *The Modern Hospital*, in piecemeal fashion. Reprints of individual articles have been sent out literally by the tens of thousands.

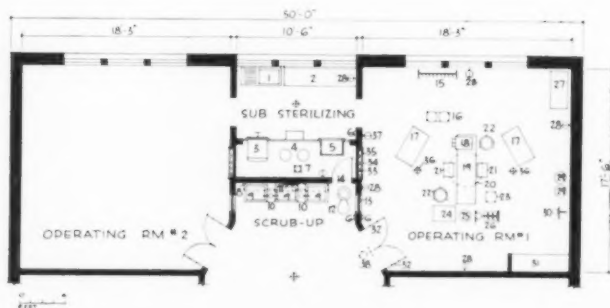
Now the basic planning information has been assembled, restudied, revised for this book.

Perhaps most useful of all to hospital planners is the section on Elements of the General Hospital. These are plans of various departments of the hospital — administrative, surgical, obstetrical, and so on — for different sizes of hospitals. The plans show necessary spaces, properly arranged, with major equipment items illustrated and listed. This section of the book has seen extensive revision since original publication of the elements, for the intensive attention to hospital planning of the last few years has added new elements and has changed many of the earlier ones.

Still useful, but not to be taken quite so literally, is the section on Schematic Plans for the General Hospital. These plans, suggestive only, show typical arrangements of the elements in hospitals ranging in size from 8- or 10-bed "clinics" to hospitals of 200 beds. In almost no actual instance will these plans be completely suitable, but they will suggest relationships of departments and circulation ideas.

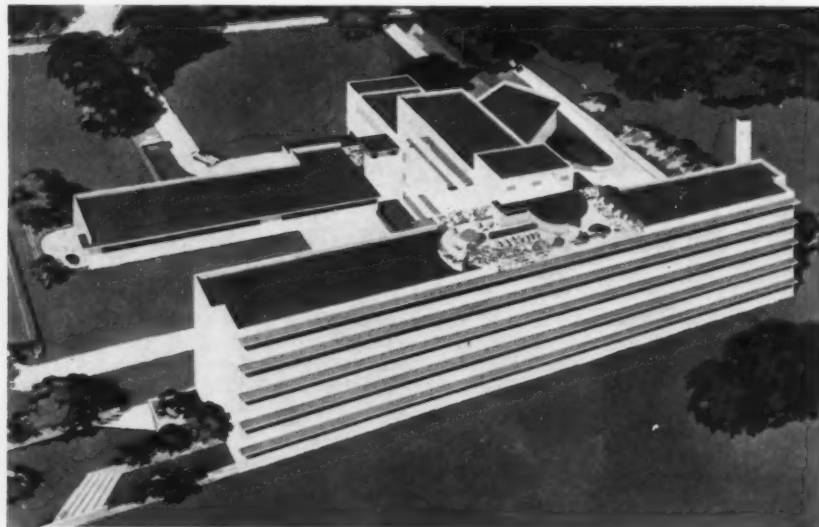
The text portion of the book gives the reasoning behind the plan ideas of the elements and type plans, the disposition of departments and sub-departments, the traffic routes suggested, the medical requirements. This section deserves close reading, especially by those who do not specialize in hospital design. It is indeed Required Reading.

(Reviews continued on page 48)



One of the "elements," from *Design and Construction of General Hospitals*

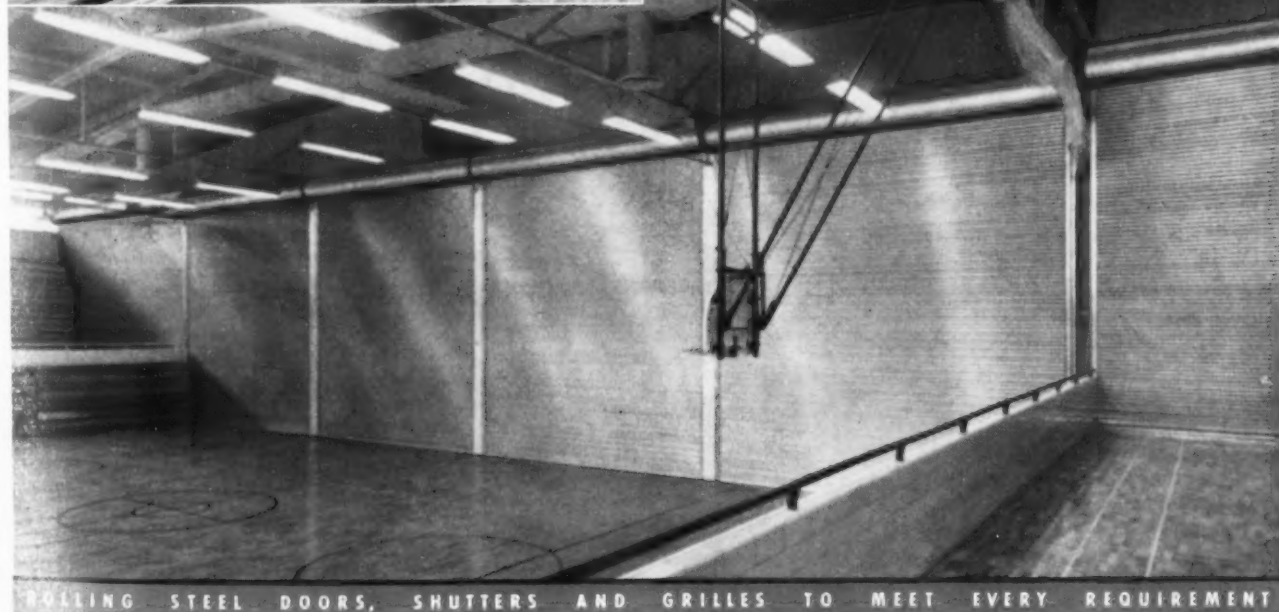
200-Bed Acute General Hospital (Stanley Reese, Designer; from *Design and Construction of General Hospitals*)



Rolling Metal Doors

Provide Removable Dividing Wall in School Gymnasium!

The six aluminum rolling doors illustrated here, which form a dividing wall in a school gymnasium, are electrically controlled by push-buttons on a single panel. When the doors are fully opened, the mullions between doors on the main floor are moved out of the way by means of an overhead track and nested at either side, leaving the entire gymnasium floor clear.



Interior view of Gymnasium in the new Birmingham High School, Birmingham, Michigan. Swanson Associates, Bloomfield Hills, Michigan, Architects. Cunningham-Limp Company, Detroit, Michigan, General Contractors.

Rolling Metal Doors with movable mullions prove to be ideal for a removable dividing wall in the gymnasium of a modern high school. In this particular installation, four power operated rolling doors are employed in the main floor area . . . two more power operated rolling doors are employed to divide the balcony on either side of the gymnasium floor, thus dividing the gymnasium into two entirely separate parts—which is desirable on many occasions in present-day usage. All visible parts of the six rolling doors, were manufactured in aluminum. Similar installations can be made in stainless steel, or in enamel coated galvanized steel which may be painted after erection to harmonize with a general decorative scheme. For high quality Rolling Metal Doors, and Underwriters' Labeled Rolling Steel Fire Doors and window Shutters, see Mahon's Insert in Sweet's Files, or write for Catalog G-53. Inquiries relative to special purpose doors, and installations such as the one illustrated here, should be addressed to the home office in Detroit for prompt attention.

THE R. C. MAHON COMPANY

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Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.

MAHON

MR. ARCHITECT - Take this ENTRANCE examination about the doors you specify for your clients



YES NO
☐ ☐

Is the entrance draft-free, avoiding discomfort for customers and employees?

☐ ☐

Does the entrance prevent wasteful heat loss, on cold blustery days?

☐ ☐

With air conditioning, does the entrance keep out heat, to minimize operating costs?

☐ ☐

Does the entrance assure orderly flow and prevent traffic jams during rush hours?

☐ ☐

Is the floor space completely usable, right up to the entrance?

☐ ☐

Does the entrance keep out dust and dirt, to reduce frequency of redecorating and cleaning, and merchandise spoilage in sales areas?

If your answer is NO to any of these questions, you owe it to yourself and your clients to investigate the advantages of a revolving door entrance. Only with revolving doors can you answer "YES" to all these questions! International-Van Kannel revolving doors... "always open — always closed" ... pay for themselves.

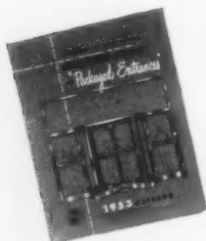
May we give you the proof? Call the number in the classified section of your phone book, under "Doors — Revolving."

Or write to the Revolving Door Division, International Steel Co. Ask for Free Guide to Planning Better "Packaged Entrances"



Revolving door illustrated is International's new Standard Model
... production built and priced
... time-tested custom features
... universally adaptable

IN CANADA: International-Van Kannel revolving doors are available through Eastern Steel Products, Ltd., in Toronto and Montreal.



LONGEST SERVICE REVOLVING LEAST SERVICING
INTERNATIONAL-VAN KANNEL
1961 EDGAR STREET DOORS EVANSVILLE 7, IND.

REQUIRED READING

(Continued from page 46)

WRIGHT'S RENDERINGS

Taliesin Drawings: Recent Architecture of Frank Lloyd Wright Selected From His Drawings: Problems of Contemporary Art No. 6. Introduction and comments by Edgar Kaufmann, Jr., Wittenborn, Schultz, Inc. (38 E. 57th St., New York 22, N. Y.), 1952. 8¾ by 11 in. 64 pp., illus. \$2.50.

A collection of drawings covering nineteen of Wright's recent designs have been assembled by Edgar Kaufmann, Jr., to form this small paper-bound book. Most of the designs are not widely known — only eight of them have been previously published — and include 15 houses, a bridge for San Francisco Bay, a self-service garage, a theater and a project for the Pittsburgh Point Park.

All in all, the book gives a very pleasant treatment of Wright's variations on circles, triangles, hemicycles, spirals, etc.: Kaufmann's comments are warm and friendly, and there is extremely nice typography and layout by Jimmy Ernst. The quality of reproduction of the drawings, however, is not always of sufficient clarity to be completely legible. This may be due in part to the limitation to black and white reproduction. Kaufmann notes in the introduction that "It is a pity that none of the drawings can be reproduced in color, for colored or metallic pencils are used freely to clarify and enliven all but the soberest working details of Wright architectural drawings." Apart from this fault, the book forms a delightful record of Wright's techniques — and apparently a needed one. The publishers state that it is the first book in over 40 years to present Wright's work "as it issues from his office, in the form of drawings."

Herbert L. Smith, Jr.

INTERNATIONAL INDUSTRIAL DESIGN

Idea 53 (International Design Annual). Edited by Gerd Hatje. Wittenborn, Schultz, Inc., Publishers (38 E. 57th St., New York 22, N. Y.), 1952. 8¾ by 11¾ in. 130 pp., illus. \$8.50.

"Idea 53" offers a collection of photographs of some of the best industrial design work produced during the past year in the United States and Western Europe.

The editor, Gerd Hatje, collaborated on the production of "Idea 53" with seven men, each of a different national-
(Continued on page 474)

ARCHITECTURAL RECORD

AMERICAN MEMORIAL LIBRARY



TWO NEW LIBRARIES FOR BERLIN, GERMANY

LIBRARY FOR FREE UNIVERSITY

ARCHITECTS FOR AMERICAN MEMORIAL LIBRARY

Gerhard Jobst, Willy Kreuer, Hartmut Wille, Fritz Bornemann

ARCHITECTS FOR FREE UNIVERSITY LIBRARY

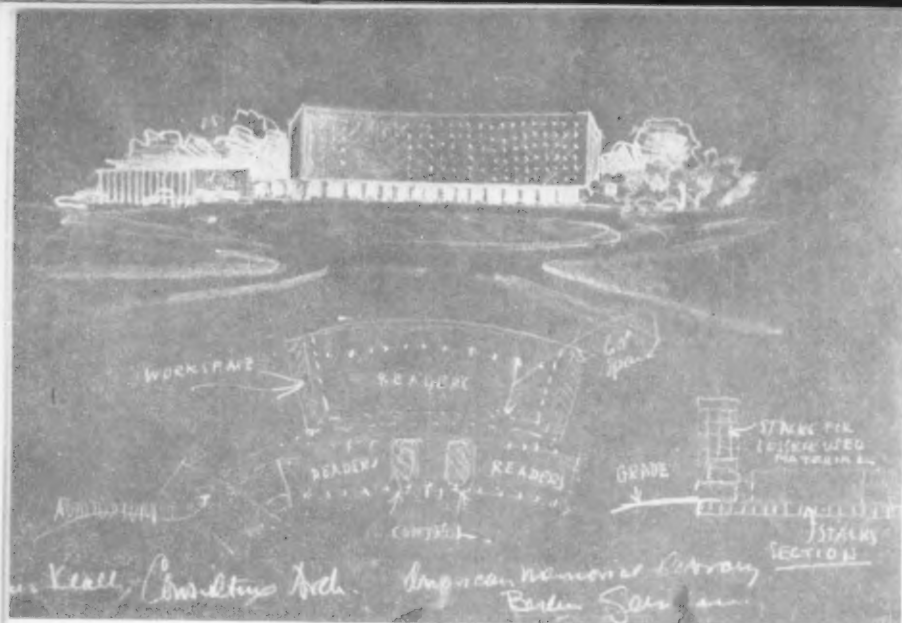
Franz Heinrich Sobotka, Gustav Müller

AMERICAN CONSULTANTS FOR BOTH LIBRARIES

Consulting Architect: Francis Keally, A.I.A.; Library Consultant: Charles M. Mohrhardt, Associate Director, Detroit Public Library, Chairman, Building Committee, Public Library Division, American Library Association

WHEN IN 1948 the city of Berlin was divided into four occupation zones, the greater part of the population was suddenly cut off from the city's main libraries, all of which happened to be located in the eastern sector which the U.S.S.R. immediately closed to the residents of the other three sectors. Book-hungry Berliners, financially unable because of the war to buy the books they wanted to read, soon swamped all existing library facilities in the three zones of West Berlin.

Thanks to the Point IV Program and the Ford Foundation, there are today two major libraries under construction in the city's American Zone, both designed by German architects with an American architect and an American librarian serving as consultants. What the collaboration has meant in the terms of international good will is for the future to determine; what it has meant to the general field of library design is indicated, in part at least, in the following ten pages.

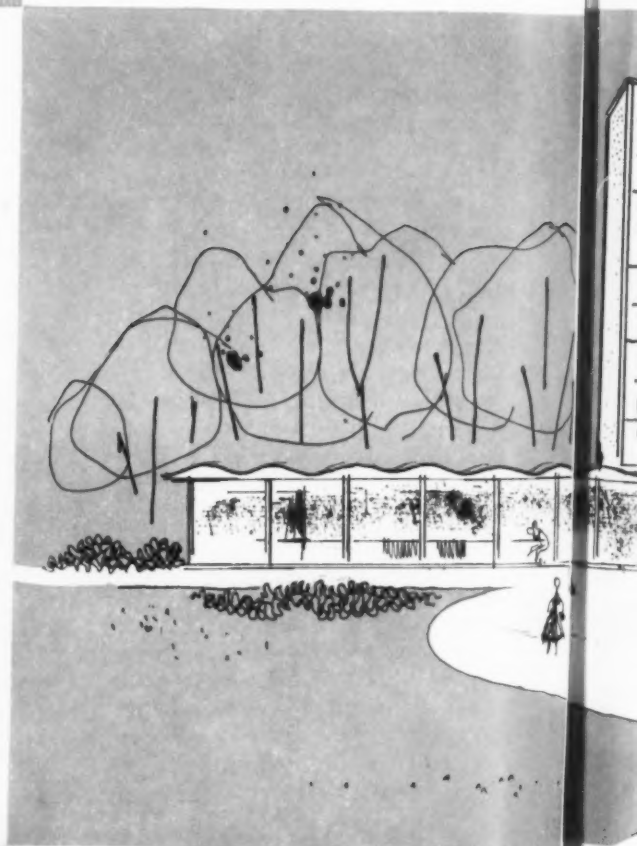
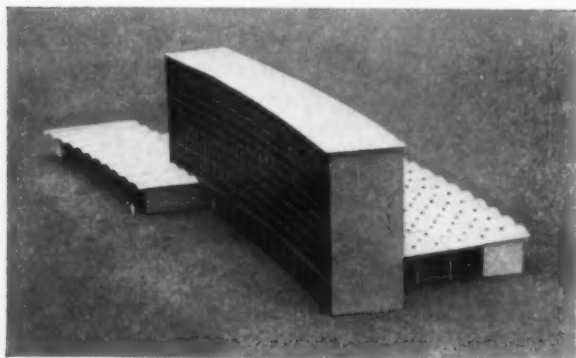


Left: rough sketch by consulting architect shows library's general organization. Note that all public rooms are on ground floor

AMERICAN MEMORIAL LIBRARY

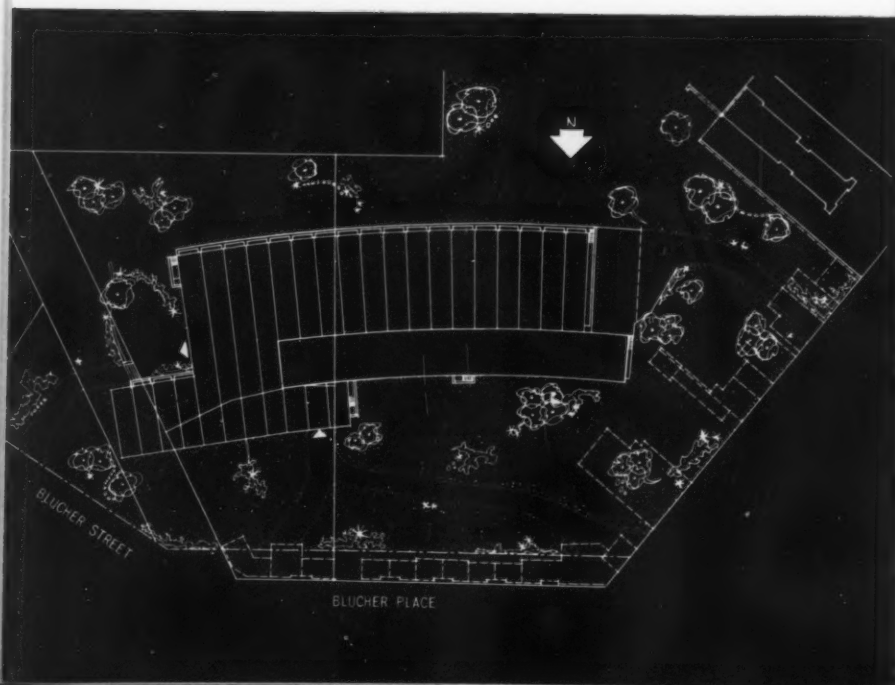
Gerhard Jobst, Willy Kreuer,
Hartmut Wille, Fritz Bornemann, Architects

Francis Keally, A.I.A., Consulting Architect
Charles M. Mohrhardt, Library Consultant



Tom Ballinger

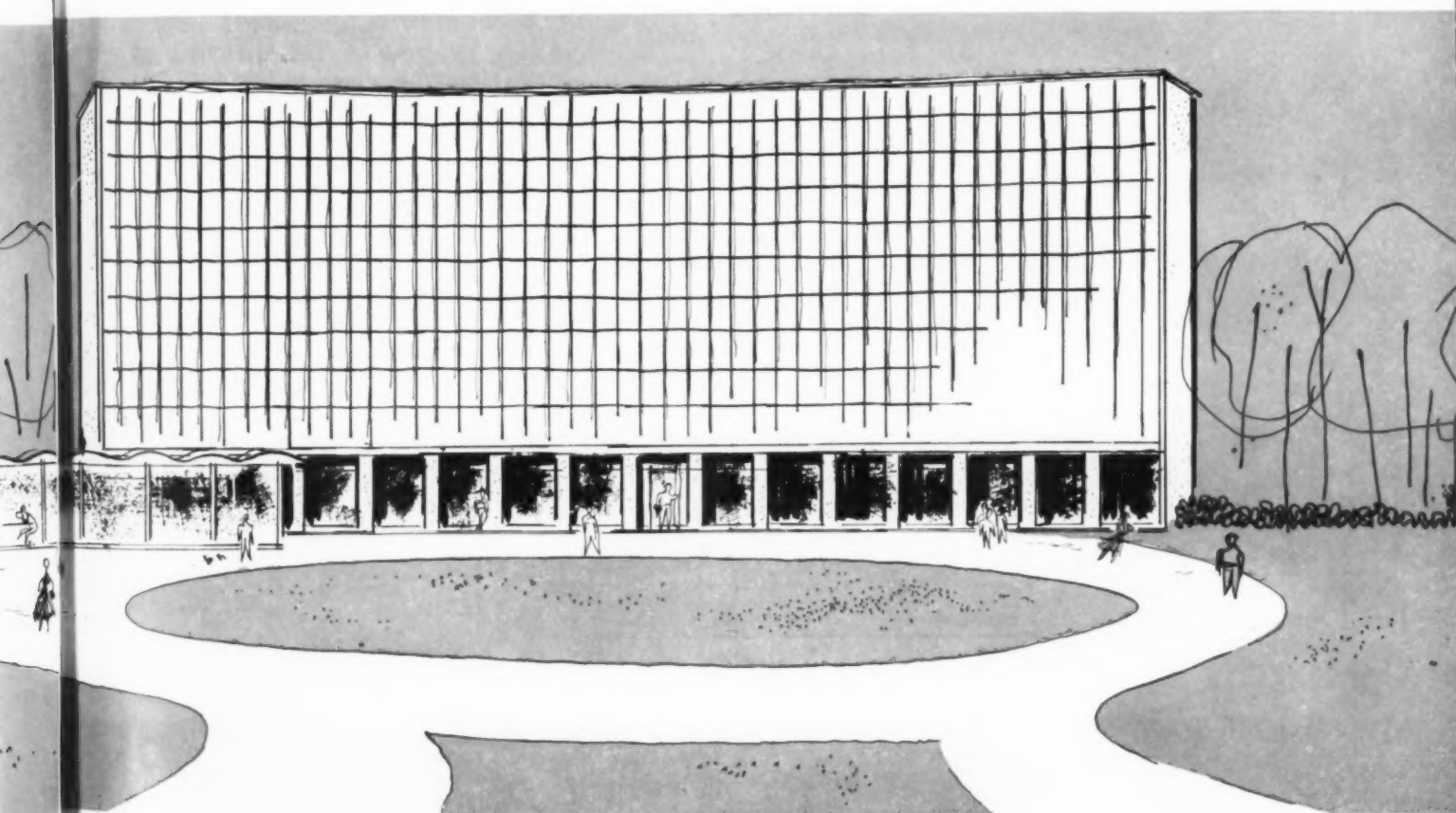
Building will front on important traffic square close to Russian Zone. Above: main (north) facade. Opposite: early construction view



THE AMERICAN MEMORIAL LIBRARY now under construction in West Berlin was made possible by the Point IV program of the United States Government; in the words of former U. S. High Commissioner John McCloy, it was given to the German city "in recognition of the courageous attitude of all Berliners during the time of the blockade." It will be one of the city's most important public libraries, serving as a research center and lending agency for some 60 smaller district libraries.

The new building is in the south central portion of Berlin, almost facing the present boundary between

The plan of the main library floor (page 127) stresses maximum flexibility. There are only two fixed partitions in the entire area — glass walls enclosing the children's department and the listening booths of the music departments; all other partitions are movable book shelves arranged around book lifts to the basement stacks. The book lifts are spaced at regular intervals along the entire length of the building, giving every department direct access to the stacks no matter how the movable partitions are placed. A long corridor, with display cases on both sides, runs from east to west, connecting every department with the lobby.

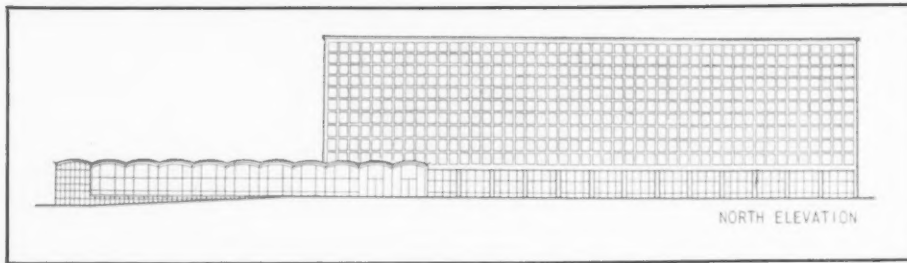


the eastern and western zones. Its main façade, an impressive curve of reinforced concrete, is to the north, fronting on a square which is an important intersection for city transportation systems. The area to the south is densely populated, and contains numerous small and medium-sized industries.

Although part of the building is six stories in height, all reading rooms and public areas are on the ground floor, eliminating the need for public stairs or elevators. One lobby serves both the library and the 350-seat auditorium forming the low east wing; since checkrooms and washrooms are at the eastern end of the lobby, both are accessible from the auditorium even when the library itself is closed.

City of Berlin

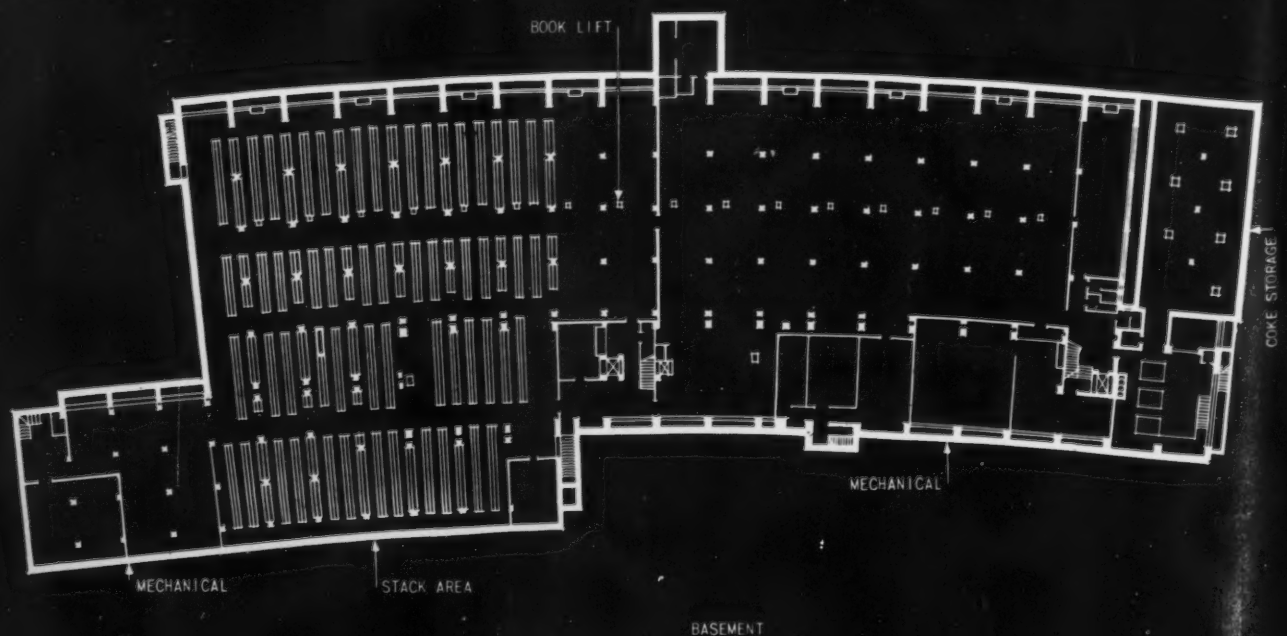
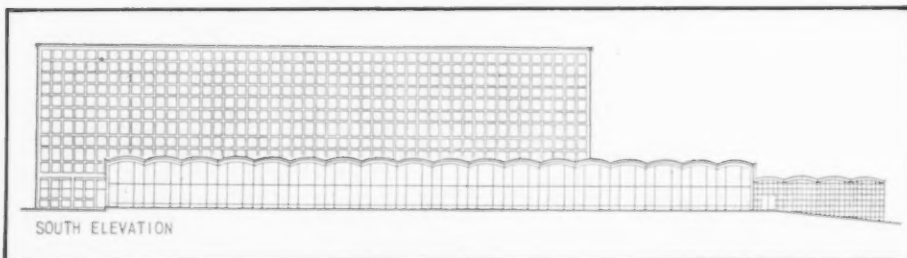
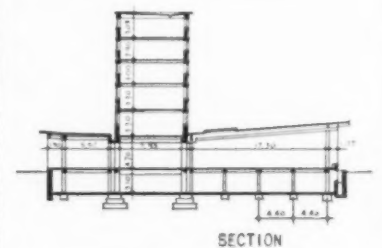
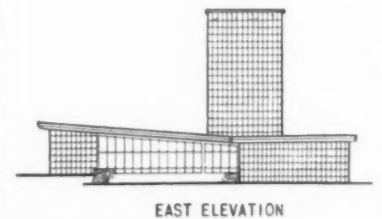




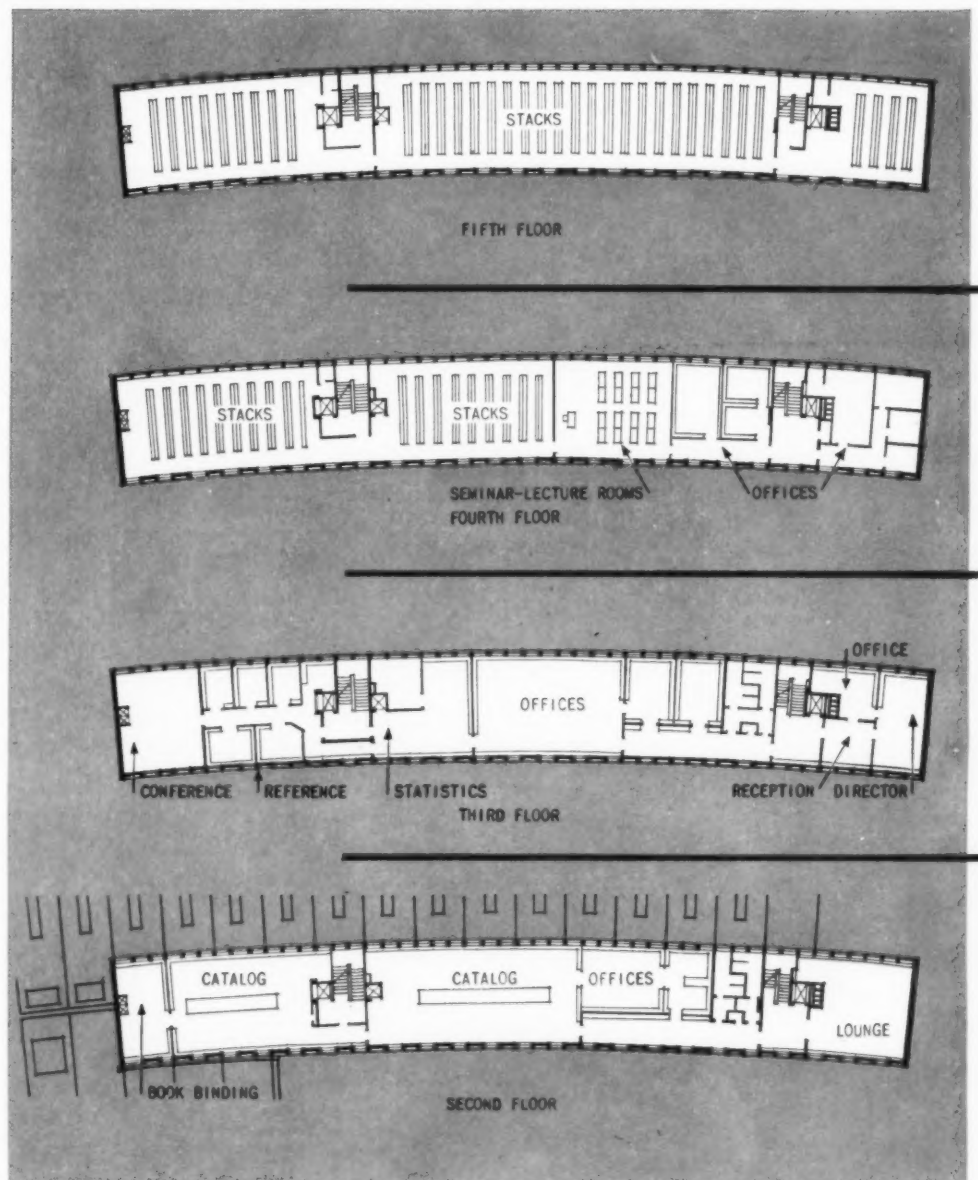
AMERICAN MEMORIAL LIBRARY

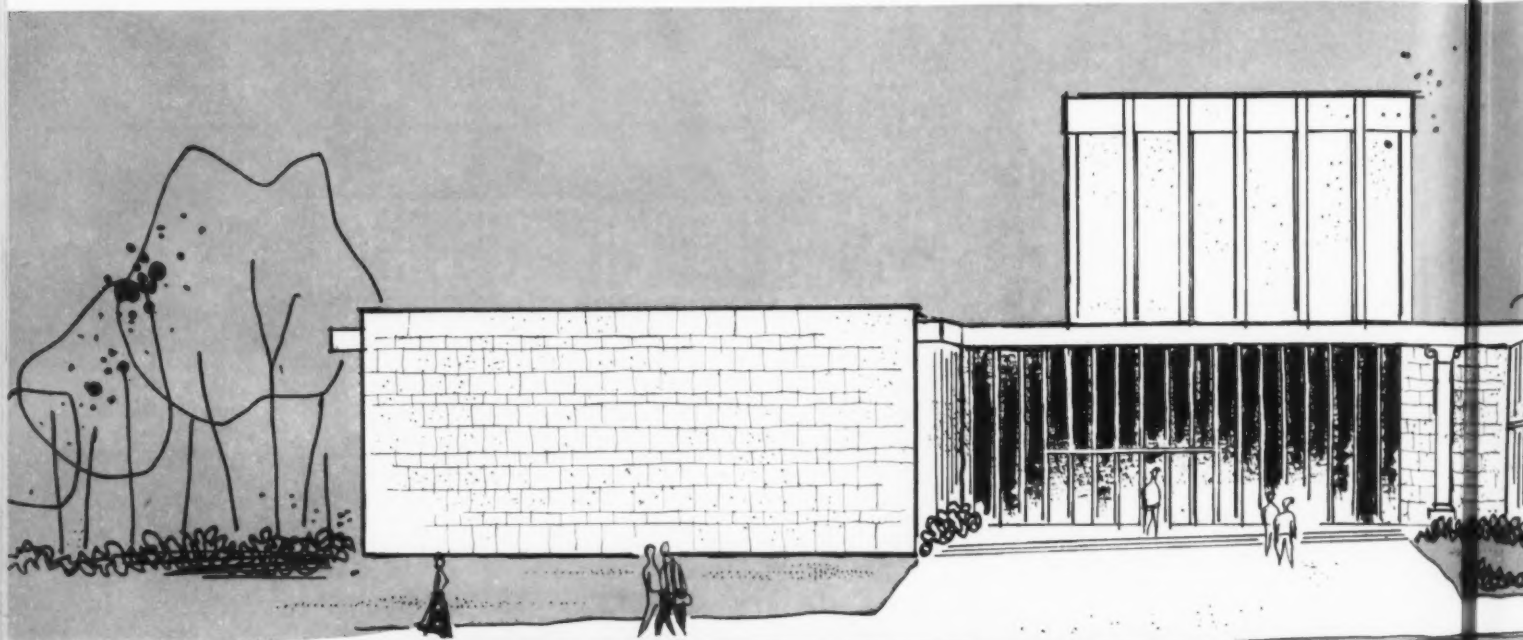
The location of the various reading rooms and departments has been worked out on a basis of use and noise. Those departments expected to be used most frequently are nearest to the main entrance, with the public catalog and reference room serving as a focal point. The "noisy" rooms — home reading, youth department and children's library — will be at the eastern end of the building, the quieter specialized sections such as law and science at the opposite end.

Main floor book shelves will accommodate about 65,000 reference and general circulation volumes; the basement stacks will house another 360,000.



Public and working areas are completely separate, the former occupying only the ground floor. Public reading and reference rooms are divided by movable partitions and serviced from basement stacks by regularly spaced book lifts (detail below). Offices, work rooms, library school and specialized stacks are on upper floors. Construction is reinforced concrete. Design was winner of competition open to all architects in Western Germany. Scale of plans: $\frac{1}{8}$ in. = approximately 1.85 m or about 6 ft





Franz Heinrich Sobotka
Gustav Müller
Architects

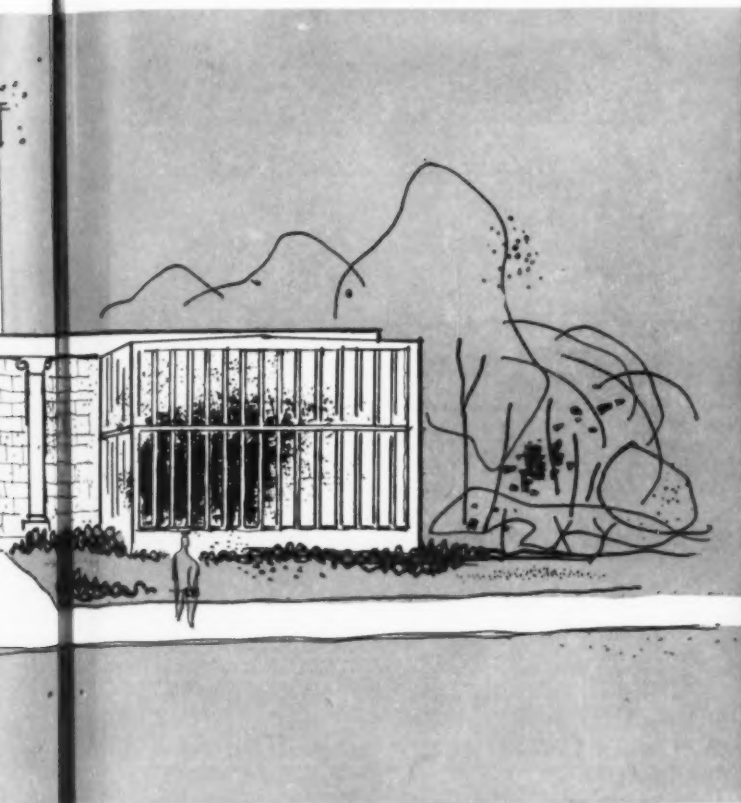
Francis Keally, A.I.A.
Consulting Architect

Charles M. Mohrhardt
Library Consultant

LIBRARY FOR THE FREE UNIVERSITY OF BERLIN

Above: model of winning design. Below: another model shows same component parts but different arrangement





Tom Ballenger



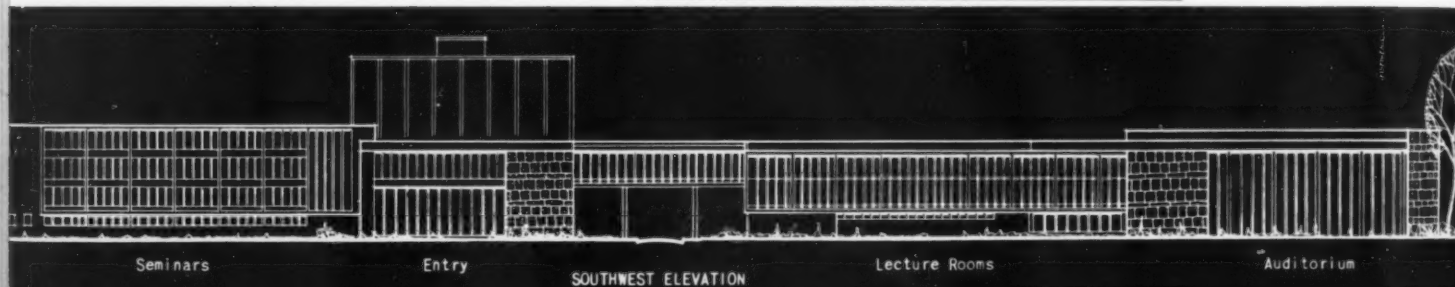
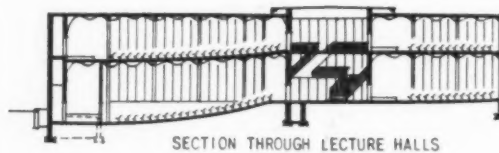
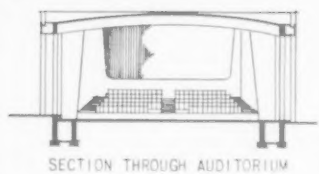
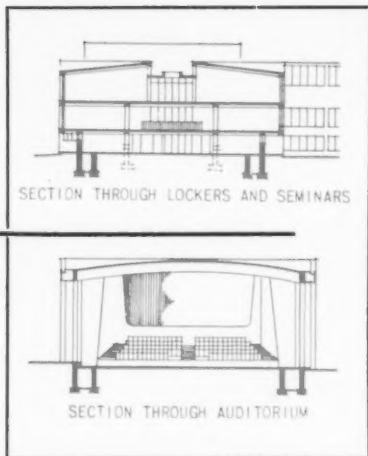
THE FREE UNIVERSITY OF BERLIN was founded in 1948 as a result of the four-way treaty division of the city which placed the existing Friedrich-Wilhelm University (now Humboldt University) in the Soviet Sector. By November of that year some 2140 students had enrolled in the new school, nearly 40 per cent of them from the Soviet Zone. Two years later (the fall of 1950) the enrollment had reached 5600 and the buildings rented or bought for university use were wholly inadequate; classrooms were widely scattered and the university had no proper center. Furthermore, there was no central library, though the various departments in three years had collected around 350,000 books and periodicals—a good start, but far from an adequate number for the growing student population.

In 1951 the University received a grant of over a million dollars from the Ford Foundation and immediately started plans for a combination library-lecture hall building. The architects, chosen by competition, were given three main requirements: (1) the building must strongly emphasize the idea of the academic community and become a center for the whole university;

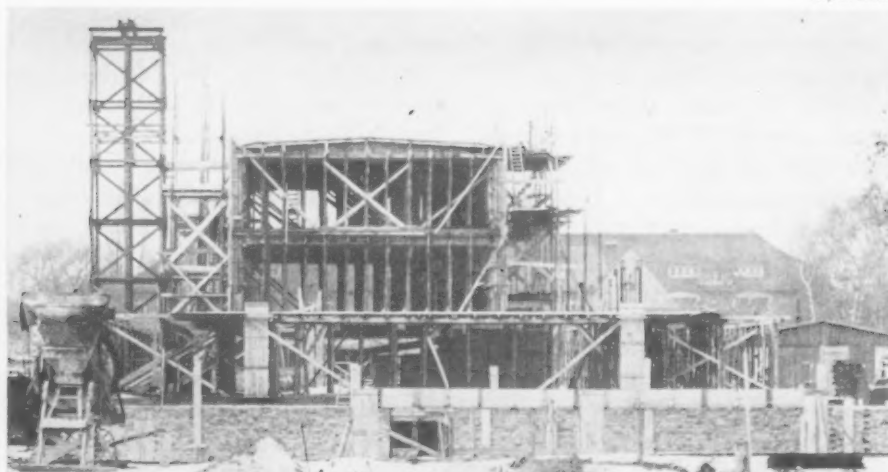
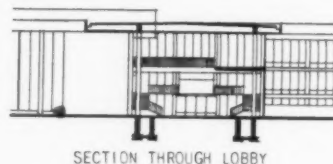
(2) the library and lecture halls must be directly connected; and (3) a close contact must be established between the new library and at least some of the seminar libraries.

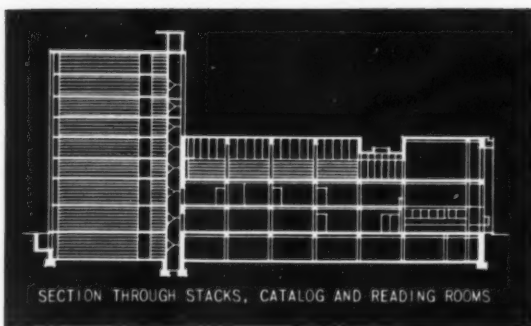
The new building is planned to accommodate 750,000 volumes, about 25,000 of which will be open-access standard and reference works in the reading rooms. The books in the stack tower will be divided into about 20 groups and arranged by number in such a way that open access and special work centers will not be required.

On the ground floor the building is divided into two completely separate wings with a service drive between them; from the mezzanine up, however, a bridge connects the two. The east wing contains a two-story auditorium plus a number of smaller lecture halls and classrooms; the west wing houses the stacks, reading and catalog rooms and seminars. A general catalog in the main library will index all the seminar libraries to facilitate interdepartmental lending and research work. Present plans call for the inclusion of three seminar libraries in the main building, with six or eight others provided for in two future wings.

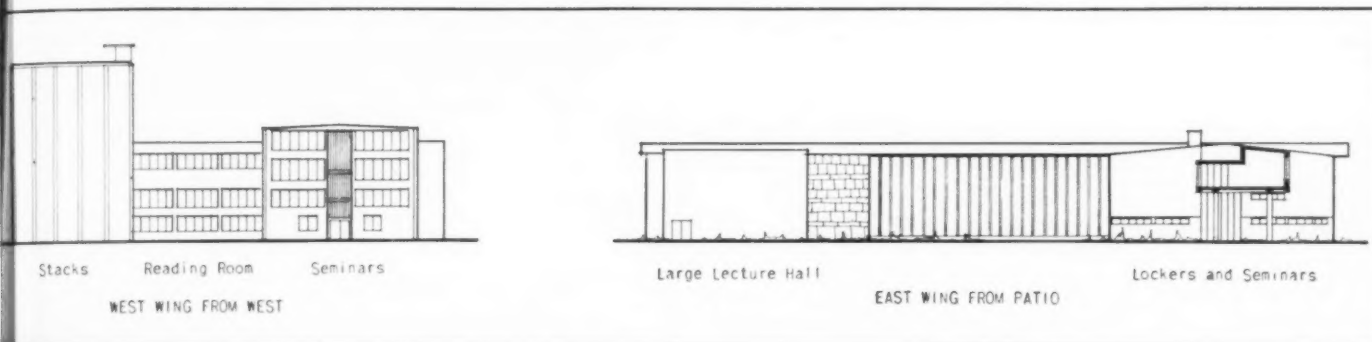


Sections and plans show careful consideration of readers' varying needs ranging from assembly hall to seminar rooms. Below: building is now under construction

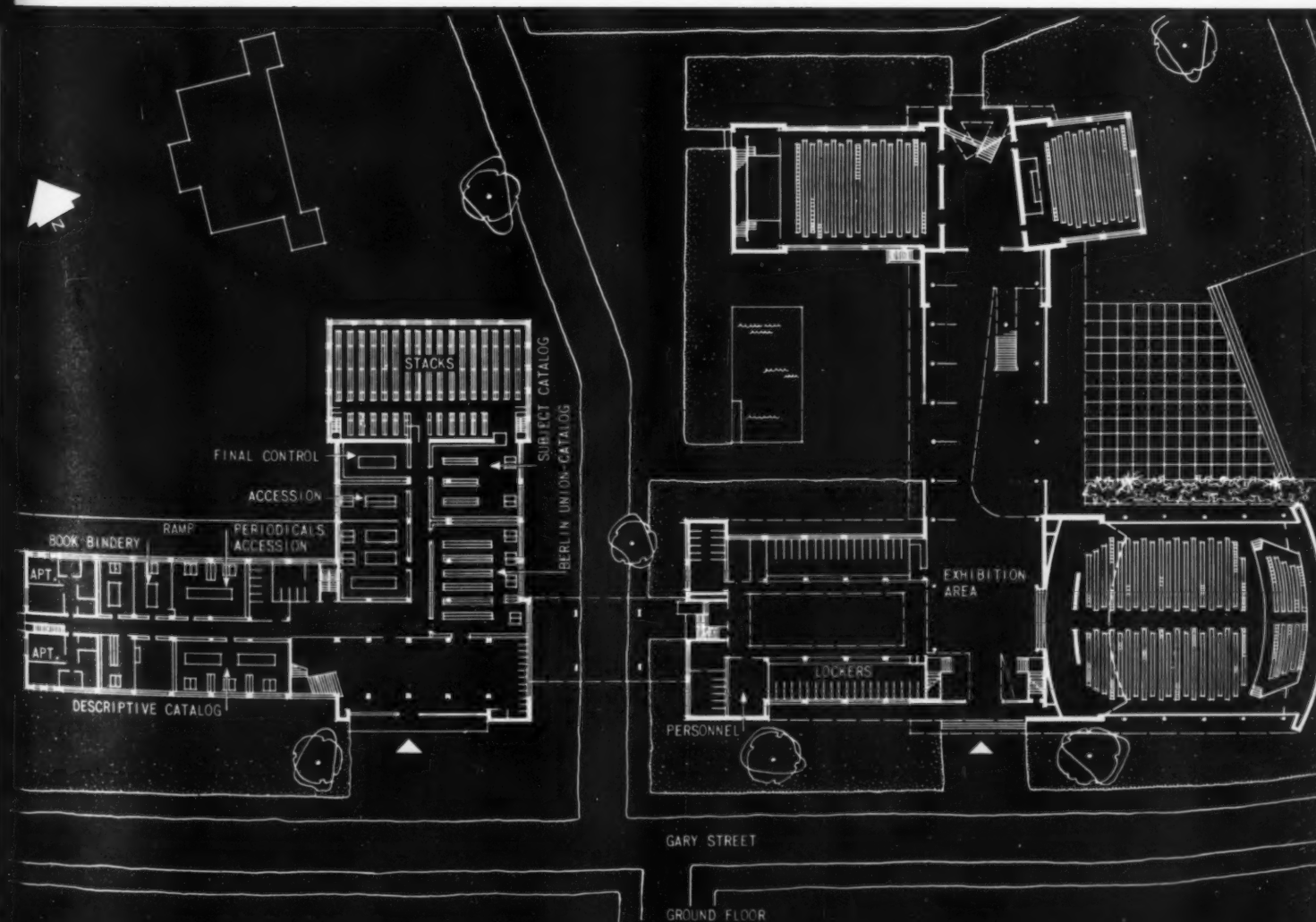




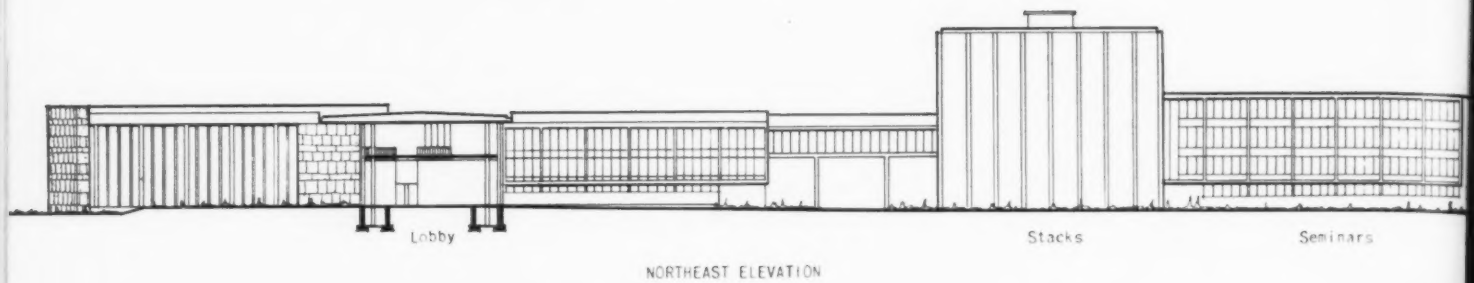
Stacks here are housed vertically instead of horizontally as in American Memorial Library. Reading rooms, public areas and work space, however, are similarly placed



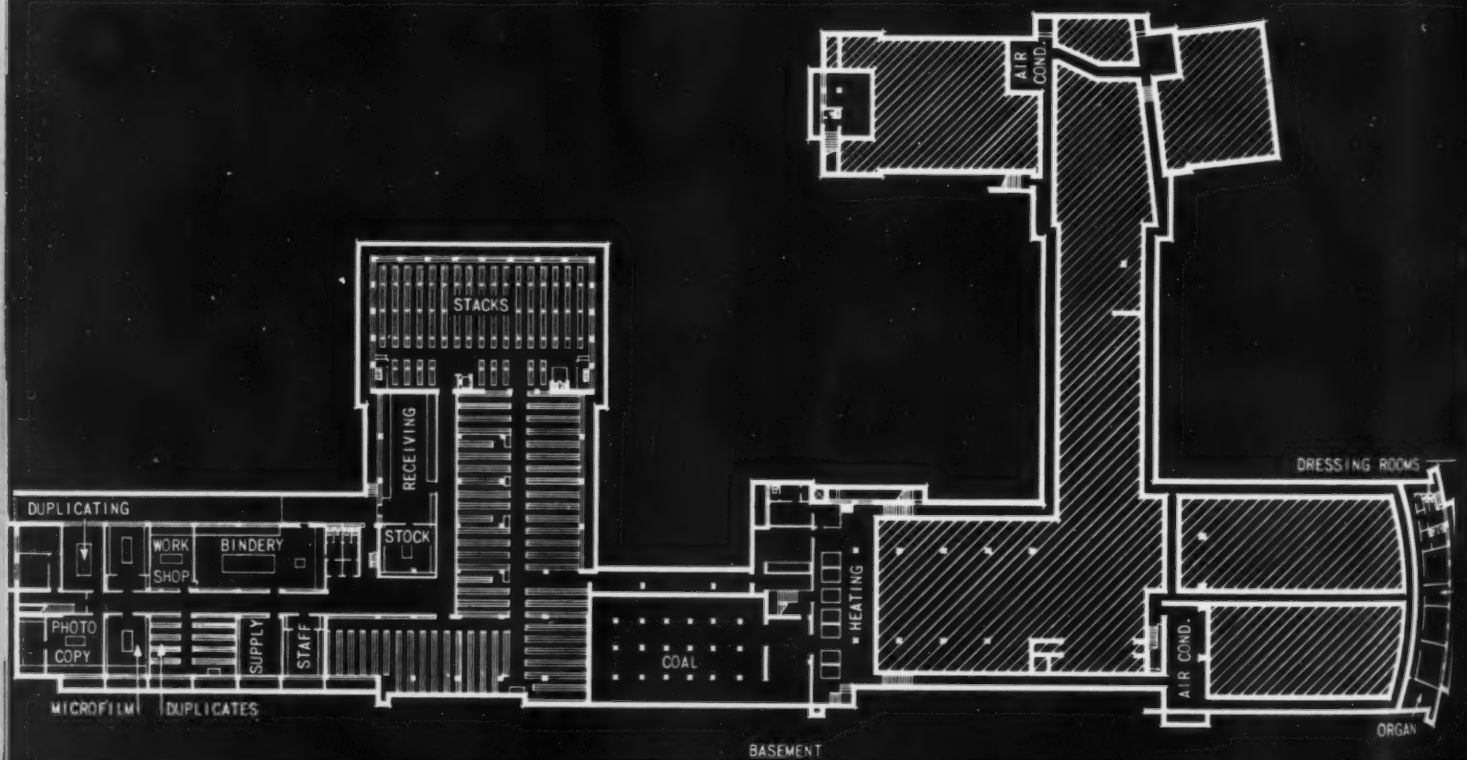
On ground floor building is divided into two wholly separate wings with a service drive between them. West wing houses the various catalogs; east wing, auditorium, lecture halls, lockers and exhibition hall



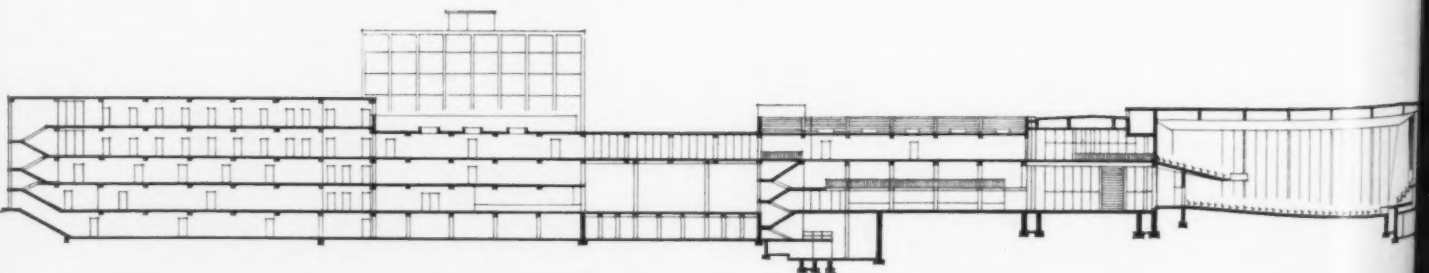
FREE UNIVERSITY LIBRARY



The complex requirements of a library-classroom building were simplified considerably by the two-wing plan on all upper floors as well as on the ground floor

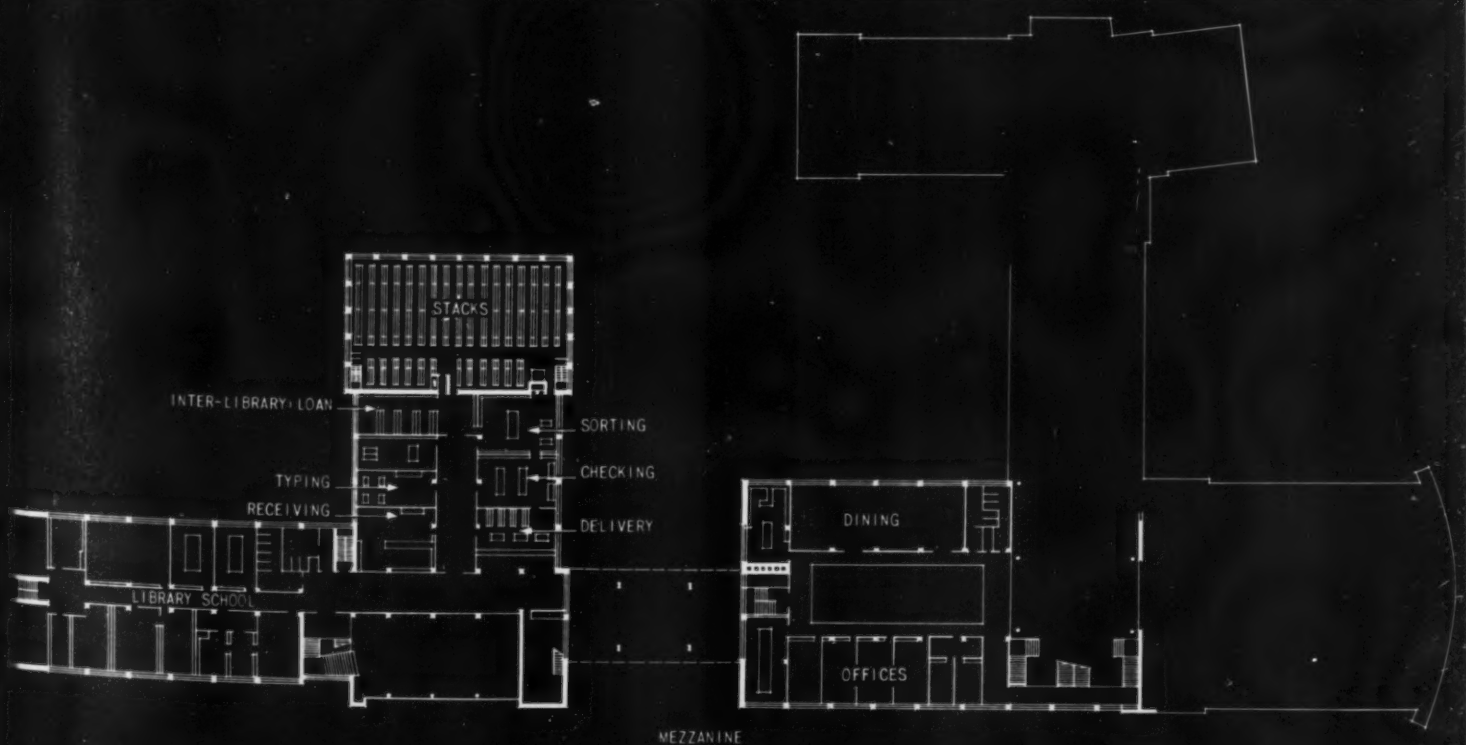


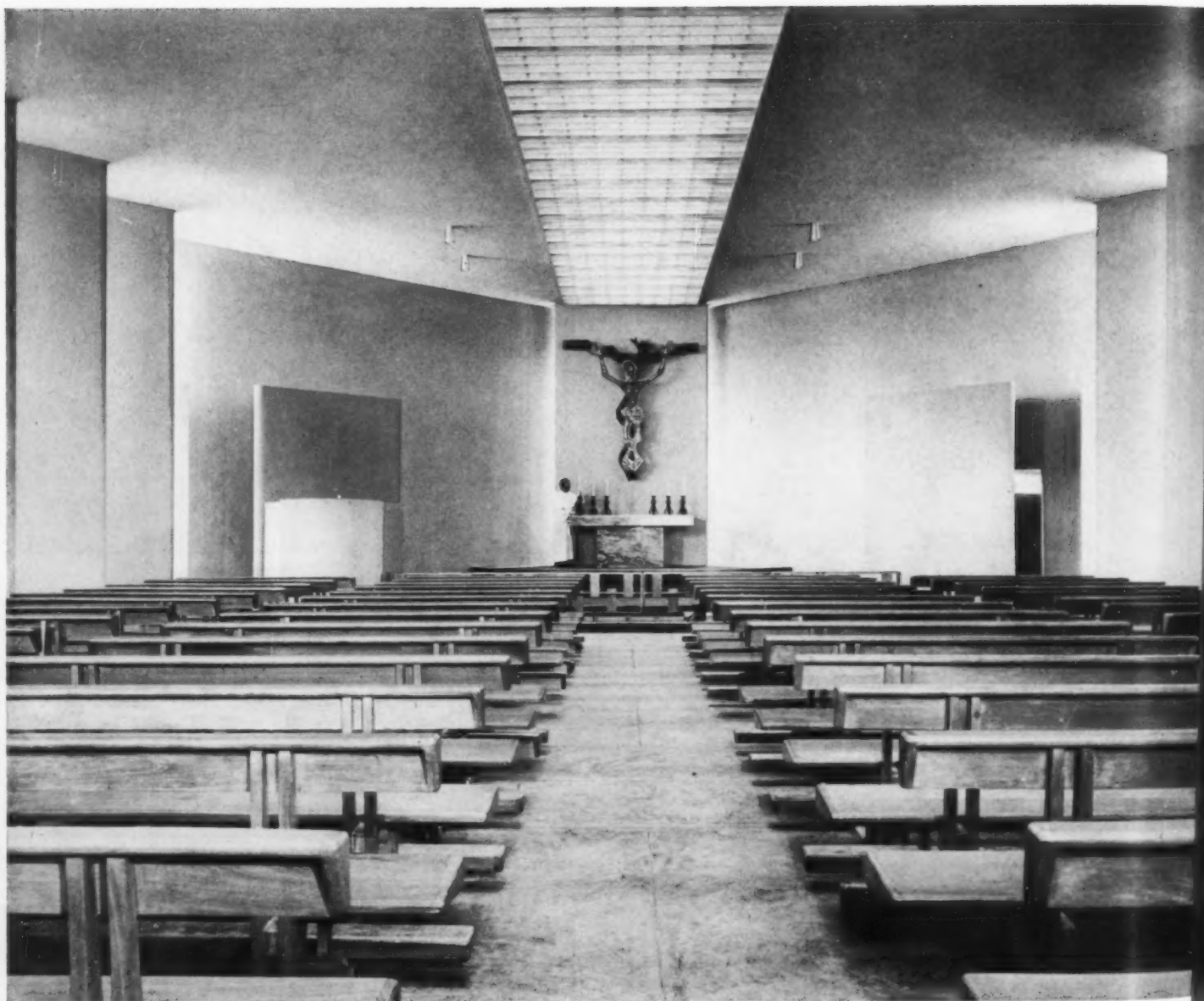
The entire "behind-the-scenes" area of the library is on the basement level: book bindery, receiving and stock rooms in the one wing; coal storage, air conditioning, heating, and auditorium and dressing rooms in the other





Main stack area is in a rectangular tower handy to all reading rooms. Quarters for library school, seminar and seminar offices occupy rest of west wing. Dining room, kitchen, large and small lecture halls and additional offices for general staff fill upper east wing floors. Scale of plans: $\frac{1}{4}$ in. = approximately 51 m or 16½ ft





Hamilton Wright photos

As one walks down the center aisle towards the altar, above, the angle of the canted, oval-shaped concrete piers is such that they seem to form a wall defining the nave. However, upon looking sideways between these same piers into the side chapels, one sees out to the palm trees and the sky, the only barrier being a delicate concrete screen with planting growing through and above it. The crucifix over the altar is the work of Father Macolino Maas, O.P., of Bayview, P.R.

THE SANCTUARY OF SAN MARTIN DE PORRES

Built for the Dominican Fathers, Bayview, Cataño, Puerto Rico

THIS DESIGN FOR A CATHOLIC CHURCH in the tropics has a satisfying quality of seeming to belong in its lush, sunbaked setting. The architect has contrived to have the foliage contribute as much to the effect as the structure itself. Klumb, a former pupil of Wright, has here successfully combined the lessons of scale, organic

space, and the relationship of structure and nature with his own disciplined expression of function.

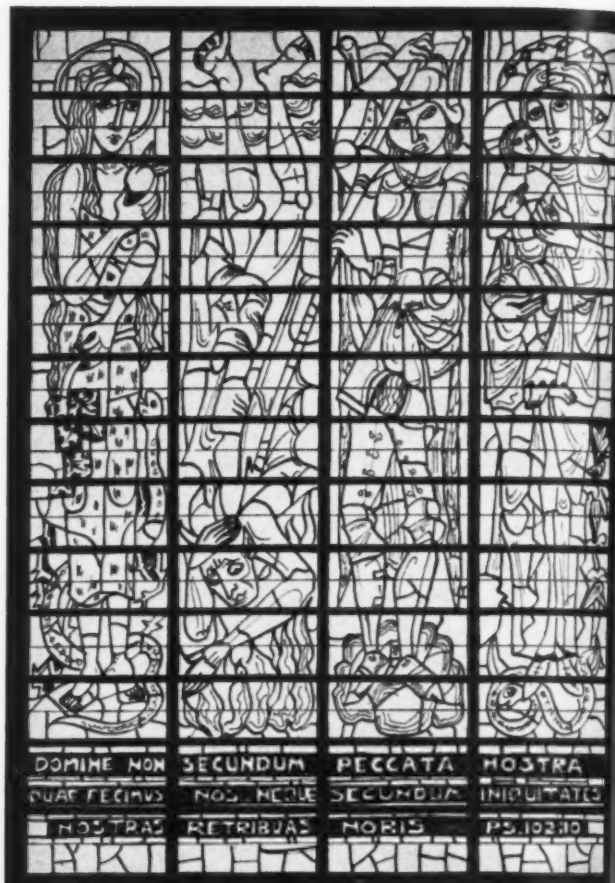
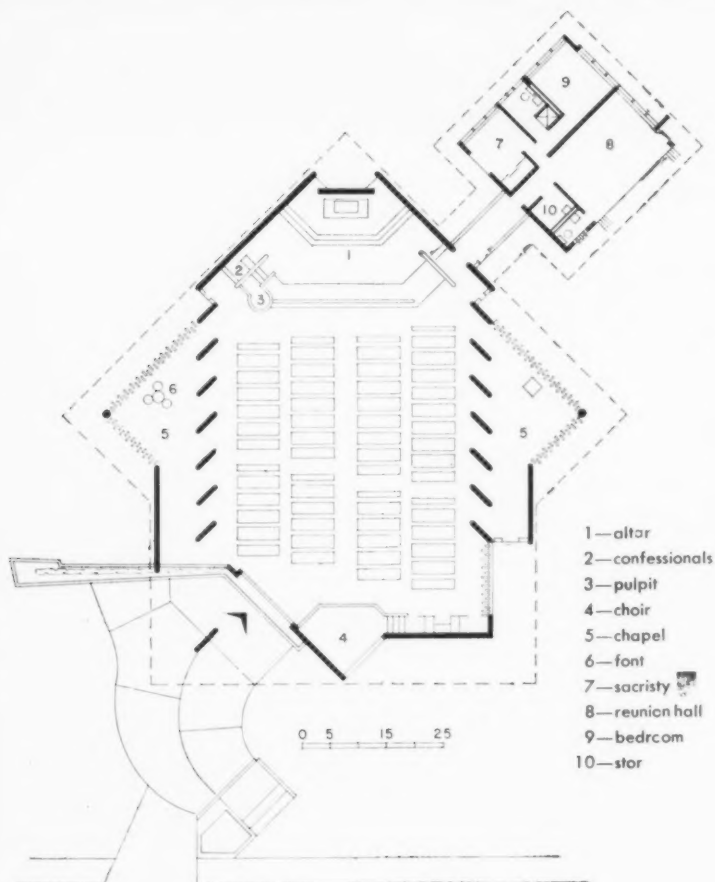
The building is of reinforced concrete which is plastered inside and out; the roof is reinforced concrete over steel joists with an acoustical plaster finish for the ceiling of the church space.



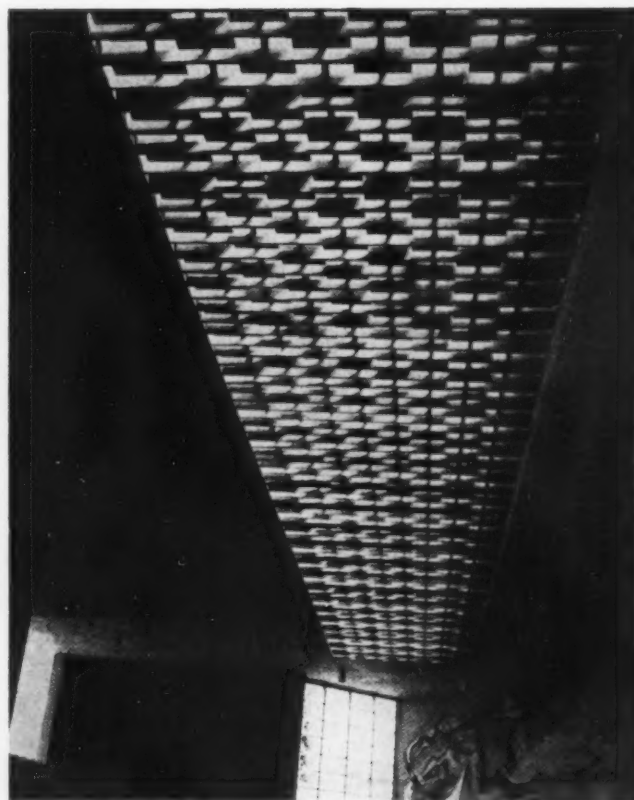
Henry Klumb, architect

*Milton Martinez,
structural engineer*

*Milton Cobin,
landscape architect*



Illustrations courtesy of Liturgical Arts



The plan, actually a square within a square, expresses the openness and tropical character of the church

Design for stained glass window, above, is the work of Joep Nicolas, a local artist. It will occupy the opening to the left of the mural (right page, top). The decorations are designed to be visual complements

The combination skylight and grill, left, provides balanced interior daylighting, gives direction to the nave, imparts a delicate airiness to the roof slab

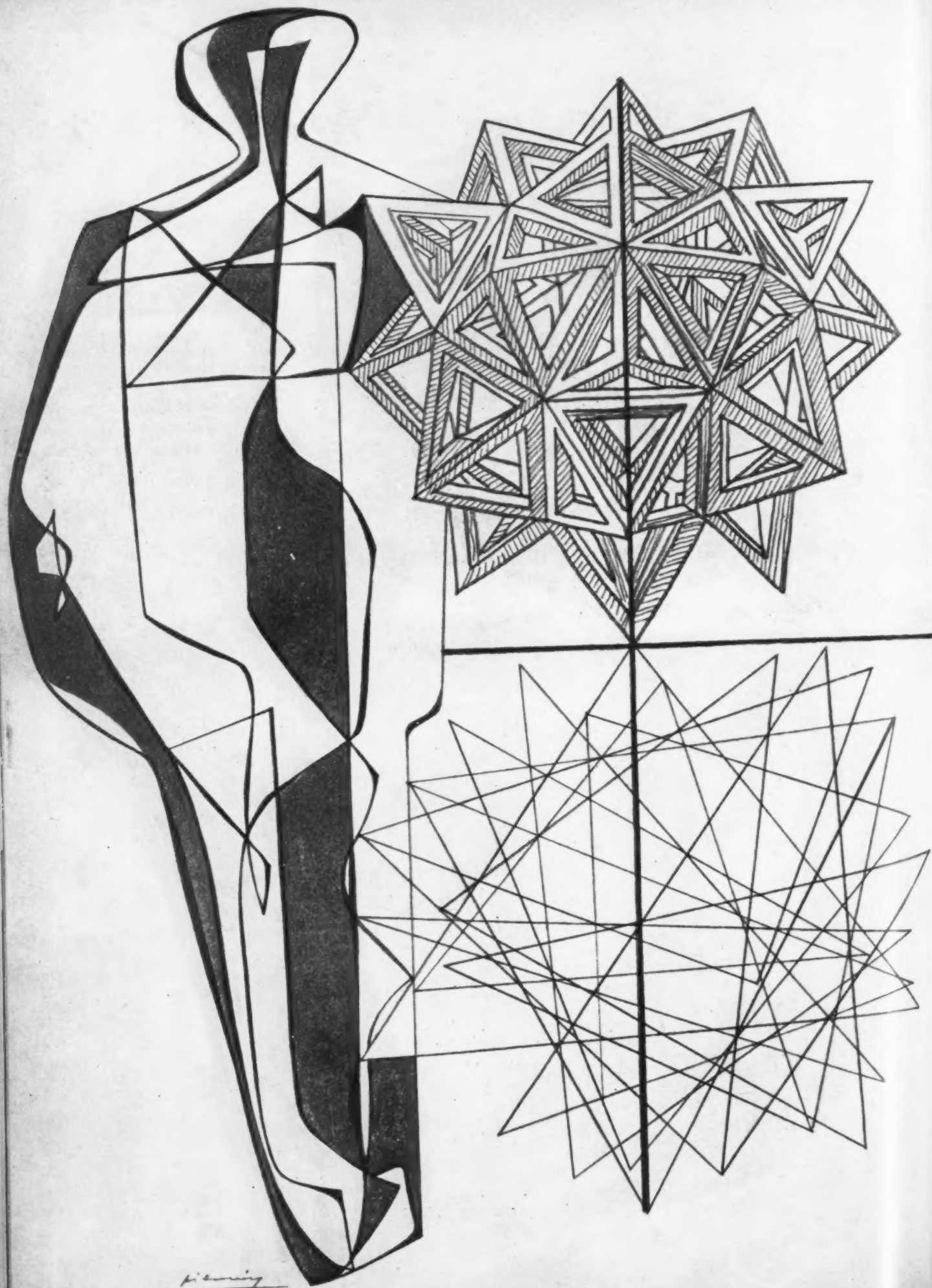


The partly finished mural over the entrance door, left, represents the sacrifice of Isaac, and is being executed in whites, grays and black by Narcisco Dobal, Puerto Rican artist

The statue of St. Martin, by Suzanne Nicolas, below, adds a note of warmth to the otherwise rather austere chapel

Hamilton Wright photos





THE THREE LAMPS OF MODERN ARCHITECTURE

JOSEPH V. HUDNUT*

I. THE LAMP OF PROGRESS

"... many concepts, valid in provinces outside the arts, have been introduced into the criticism of architecture and have gained an acceptance there. These are lamps, alien to architecture, and yet illuminating architecture; lamps which throw into sudden brilliance some single façade or tower which then overshadows all the rest of the building; lamps which clarify sometimes and sometimes confuse."

THE CONCEPT OF HISTORY as an unbroken process of development had its origin in the Renaissance. A constituent of humanism was the belief that men make their standards and do not merely discover them — and the notion that those standards should change and yet not change toward a greater perfection was unthinkable in a climate so charged with optimism as that of the sixteenth century. When the early rationalists, having rediscovered nature, found that there were, after all, fixed standards beneath her apparent diversities, they concluded nevertheless that history might advance through progressive discoveries and clarifications of these standards; and after Newton had established his marvelously complete scheme of the world — one which worked in such a sense as to enable successful prediction — the logical conclusion seemed to be that the scheme was working for human betterment. The German philosophers, from Herder to Hegel, overlaid this mode of thought with the romantic overtones which gave it a currency so wide and popular that it is a fundamental today, even among those who are reconciled to the notion of a nature unguided by spiritual authority.

It should not be surprising then to find that the minds of architects, a species concerned at all times

with foresight and constructive imaginings, should be invaded by the idea of progress; that they should transpose into the history of their art this idea of ever-ascending rhythm and development; and that, by a deduction as agreeable as logical, determine an architecture specific to themselves at the highest pinnacle yet attained. The architects of the Vitruvius Britannicus had no doubt of the superiority of Georgian England over all cultures which had preceded it and as evidence offered the surpassing excellence of their own art above that of Italy and Rome. The architects of the Gothic Revival, although somewhat more hesitant before the towers of Chartres and Amiens, as confidently expressed, in the picturesque silhouettes of the Houses of Parliament, that transcendent promise which they had discovered in the prosperous, august, and glittering cycle of Victoria; and the certain faith of the America of 1910 in the invincible march of American enterprise could scarcely have been more evidently attested than in the proud and complacent peristyles of McKim, Mead, and White. Standing under the plaster vaults of the Pennsylvania Station, who could doubt a progression toward new miracles and new enlightenments? In each age, architecture was borne forward on buoyant assurances of progress, unimpeded and ever benevolent.

The thought of our present-day architects is more deeply colored by the idea of progress and by the sentiments which progress provokes than was the thought of architects in any other era. Architects are peculiarly sensitive to the splendor and promise of a new world which, they believe, is taking shape around them; particularly eager to open the laboratories of their minds to the qualities of that world; and more than any others resolute to celebrate in their art whatever is specific to their advancing civilization. And what witness of our fervor could be more revealing than the

* Lectures delivered at the College of Architecture and Design, University of Michigan. Copyright 1952, University of Michigan Press.

name by which they delight to distinguish the architecture of their day: *modern*?

A new civilization is being forged, an old civilization is breaking into pieces. Civilizations are made by men, the result of forces set in motion by men. Whatever its present confusions, some order and structure will prevail in a coming synthesis; this order and structure will consist, not of material circumstance — of mechanical refrigerators, airplanes, and skyscrapers — but of a new mentality and ideal; and these mentalities and ideals will be more healthful for human life than any which now obtain or ever have obtained. There must be new valuations, ethical and social, new modes of behaving and thinking, new standards of beauty evolving beneath the changing appearances of our world. Architects wish to participate, not as technicians merely, competent in planning, in costs, and in technologies of building, but as artists capable of insight and expression. Their new art is founded upon optimism. It does not recognize the possibility of triumph by the destructive forces which array mankind.

Thus there has been lighted, in a realm apart from architecture, a lamp which has cast its spell over a generation of architects. As if by a common impulse architects ceased to look backward; threw away their Renaissance and Gothic toys; and, guided by this alien radiance, sternly set about the somewhat paradoxical business of belonging to their time. A new mode is established; a revolution "more fundamental than any in seven centuries" is accomplished; advancement and new enlightenments have become the universal themes of architecture, illustrated in revelations of structure and utility, strict and uncompromising; in the impacts of our machines, severe and undisguised; in the standardizations imposed by our commerce and industry; in hard lines, unshadowed walls, angular silhouettes, and fanaticisms of plate glass, pilotti, and streamlining. Over multiplex invention and novel trappings, over our austerities, denials, and flagellations, the lamp of progress reveals our slightly argumentative but unmistakable delight in a modernity peculiar to ourselves.

Now that this revolution is complete, this victory assured, we ought to review the conflict and to reassess its consequences. We have put an end to eclecticism. We have discarded the rules of the Academy, laughed the styles of architecture out of the window together with all ethical judgments of art, and discredited, for at least a generation, that literate and documented tradition which Louis Sullivan, with exceptional self-restraint, denounced as "hypocritical, degraded, mealy-mouthed, hopeless and putrid." We have, in effect, brought our techniques to the surfaces of our art, believing that these will acknowledge in our style the inward nature from which they sprang; and we have searched for and found many new inventions. Was this what we set out to do? Did we truly achieve that liberation for which we hoped? A great epoch has begun; there exists a new spirit; and industry "overwhelming

us like a flood which rolls on to its destined end" has furnished us with new tools. We ought to ask now if that new epoch and that new spirit have truly and faithfully informed our work. It is futile — and just a little silly — to run our rapier again and again through the body of our enemy, who lies dead at our feet. We have time now to glance at whatever rifts there may be in our own armor.

At this point I must recall a principle which is, I think, fundamental in the criticism of art: *expression is the supreme law*. Every artist, we must assume, wishes to tell us something in the language of his medium. At the beginning of his work or in the process of its development the architect, whenever he is an artist, proposes to himself some central impression which his building shall leave on the receptive mind, some vital and essential spirit which shall animate the whole. His art then is successful in the degree to which he has succeeded in that expression. We must not censure an architect's work, in so far as it is art, by logical or technical standards. The necessary questions are these: What has this architect intended? How far has he succeeded, with such materials as were afforded him, in carrying out his intention? Does his work express that which he meant it to express?

A building, when it deserves our notice, does so as an expression of something, of some experience or feeling either in the architect himself or in the world around him. As critics we must focus our investigations upon this central concept, which must be implicit in all that we write. Our guiding star should be not the way in which the architect worked, the theories of design to which he gave his allegiance, the time, place, and circumstances which surrounded and influenced him, the truthfulness and propriety of his sentiments, or the fitness, firmness, and economy of his methods — although all of these are valid investigations for the historian — but the peculiar and individual life he has instilled into his constructed fabric and the mysterious means by which he evoked that miracle.

In following this principle we must be careful not to search for a source of expression in an architect's personality — in whatever bundle of psychological traits an architect exhibits in his practical life. These are pleasant or unpleasant, conventional or picturesque, ethical or unethical; but they are almost always distinct from that artistic personality which is the creative force in a work of architecture. You will not discover the poetic and tortured soul of Louis Sullivan — or his deep-tinted rhetoric — in his exact and linear skyscrapers and his careful ornament. The crotchety mind of Richardson disappears under his masculine arcades, his rugged, craglike silhouettes. The opposed styles of Le Corbusier and Wright have their origins not in opposed temperaments but in opposed concepts of the functions of art. If by self-expression we mean the exploitation of personal traits, then self-expression is the unforgivable sin of an architect. Nor should we

look in architecture for the expression of those fleeting sensations, exquisite or brutal, which are thought appropriate to poets and musicians.

The range of expression — or, let us say, the range of ideas to be expressed — is thus limited in each art. Music can express themes inaccessible to sculpture; sculpture, themes inaccessible to architecture; nor can that which is expressed in any of these be adequately translated into words. It is obvious that the architect must be content to capture only those things which architecture can capture.

From these considerations I shall draw a second principle in design which, I think, is quite as fundamental as the one I have already stated. Expression is the supreme law of architecture, and *this expression is limited to ideas and feelings which are related to life in its general, or collective, form.* However original to his own experience, however deeply known and felt, an architect's theme is an experience, not intimate and personal, but known, in some degree, to all men.

Architecture is mute before individual happiness or suffering. Neither love nor hate, jealousy nor anger, despair nor hope can be expressed in the language of stone or steel except as these are first made the passions of society. To be fused into architecture these must become shared experiences. I do not, of course, mean that emotions, engendered by memories, may not cluster about a house or that architectural forms may not become, through no agency more mysterious than association, deep wells of sentiment; but it must be obvious that these are not shared or collective experiences but personal.

The genius in architecture is he who, commanding the means of expression, feels beauty and meaning in the general life of mankind more clearly and intensely than do other men. The beauty most moving in architecture is that expressed by the cathedral; but the grandeur and promise of the state can also be exhibited in noble patterns; and architecture has always been solicitous of the adventure, relived a million times each day, and the loyalties, forever reaffirmed, which are the secure foundations of family life. Our institutions may tell their stories through the buildings which clothe them, and cities, like Venice, may proclaim in architecture their power and splendor or, like Athens, their serene pride and their piety; and it may be that we shall also express, in the form we give to a modern world, some dignity and promise in the life of mankind as a whole.

These are spiritual values, inaccessible to measurement and objective analysis. The art which exhibits them is not a special function, the exercise of an aristocratic club, but has its roots in the life of mankind from which it cannot be separated. That which the architect experiences we have already experienced; that which he tells us we have already known; and that which distinguishes genius is not a difference in kind from humanity but a difference in intensity of

feeling and clarity in expression. "Genius," said Croce, "is not something fallen from heaven but humanity itself."

If it will be admitted — if only for the purposes of this paper — that these, the experiences of men in society, are indeed the themes most congenial to architecture, then, before returning to the idea of progress, I should like to introduce a third principle which, I think, is also fundamental. Expression is the supreme law of architecture; the themes of architecture are ideas related to men in societies; and *the vehicle of expression is always plastic.*

The architect is concerned with shapes and the arrangement of shapes, architecture being "the masterly, correct and magnificent play of masses brought together in the light." The definition is that of Le Corbusier and is developed by him in eloquent language:

"The architect, by his arrangement of forms, realizes an order which is the pure creation of his spirit; by forms he affects our senses to an acute degree and provokes emotions; by the relationships which he creates he awakens profound echoes in us; he gives the measure of an order which he feels to be in accord with our world; he determines the various movements of our heart and of our understanding; it is then that we experience the sense of beauty."

The term "shape" includes lines, planes, and volumes; and, although these abstractions may be expressive in themselves, they gain an architectural expressiveness through that arrangement which "realizes an order which is the pure creation of the spirit." That kind of order is form. I do not mean that form is beauty — the idea which colored the Renaissance — but rather that form is beautiful when it is also an expression of feeling. We do not know by what mysterious means an architect gives form and individuality to his work. We do not know where form comes from and how it develops and expands or how it becomes irradiated with celestial fire. The rules of the formalist, minutely and strictly followed, give us only lifeless pattern. But we do know that form is the substance of architecture.

An architect models his building — subject to a thousand tyrannies of use, technical compulsions, costs, conditions of the site, and the vagaries of clients — as a sculptor models clay. He assembles, shapes, and defines volumes and masses; establishes their relationships to each other and to the whole; adds or takes away from each; emphasizes or suppresses, simplifies, elaborates, distorts. So far as an architect strives for expression he strives for form.

Having thus set forth — I hope not too tediously — what I conceive to be fundamentals in the analysis of architecture, I shall return to a consideration of the idea of progress and of that sentiment for modernity which is the reflection of this idea in architecture.

I shall not bring into question the belief that design should be the outcome of a sound knowledge of materials

and technical processes and of fitness for practical purpose. Our new inventions in manufacture, our new possibilities in the design of space, will reshape the world anew. A new architecture will be the child, in a technological sense, of a new era. I take these things for granted. I am concerned, rather, with that idea and feeling which was provoked by the triumphant progress of our day, with the need of our architects to celebrate that idea and feeling in their constructed patterns, and with the mode by which they hoped to effect that celebration. I should like to re-examine this the central practice of our architects in the light of the principles of criticism which I have described.

Let us examine first the idea and the need; and afterward the mode of expression.

From its earliest formulations the idea of progress has had, as we have seen, a strong materialistic flavor. Schelling, who considered history a development, compared this development to that in the physical universe. Hegel adopted the same analogy, human history being an epitome of a vast cosmic process, intended by God but proceeding in accordance with physical laws. Marx accepted this idea as fundamental but proposed "the material conditions of life" as the cause of change in human thought and art. In all instances the concept of progress in human life is identified with progress in the physical world.

When, therefore, our architects extended this idea from its home in philosophy into the realm of art it was almost inevitable that they should identify the progress of architecture with the progress of their technologies. The cumulative advancement of man's inventions, a continuous temporal process, was seen to be like that of nature; and nature, in turn, had set the pattern for the forward march of man. Airplanes, radios, and skyscrapers became the advance guards of humanity — and of a new architecture. They are the heralds that announce the new day.

Upon that assumption our architects built a little philosophy of their own. The marvels of new machines being the certain evidence of new marvels in civilization, the conclusion that our social, economic, and political systems are also evolving toward new perfections in harmony with the machine, was too inviting not to be embraced. The machine shall create a new order, a new freedom of thought, a new religion, and a more glorious architecture: an architecture which overcomes those inhuman living conditions which are the cause — and never the consequence — of moral degeneration and anarchy, an architecture which exhibits the clarity and logic, the unfailing exactness, of the new life which the machine is to sustain.

Our new architecture is thus founded upon an aspiration, not upon a reality. Our architects do not, as a rule, assure us of any dignity or grace in our present scheme of life, for they can find none, but of a perfection of well-being in a scheme to be presently invented. Our architects are possessed, not by intuitions of grandeur

in the nature of man, but by a sentiment for the material progressions which surround him, for the glittering promises of new technologies. The philosophers of progress did not give our architects a new background of life and inspiration in which they might believe with certainty and passion. For the heaven they destroyed, they gave us the terrible splendor of a material universe carried forward on the great wave of evolution which carries us forward also.

But what is the purpose of architecture if it is not to discover a background of life and inspiration: to look below the confusions and frustrations of the material world and to recognize below these appearances the universals that shape the quality and direction of human life — to bring these out, exhibit them, make them known and eloquent? A sentiment for material progressions is not drawn from the general spiritual life of our time. The promises of a technological Utopia may kindle the mind of an architect but never the heart of mankind. Whatever may be our faith in industry and the machine, however firm our conviction of new freedoms and new horizons, we shall never satisfy with these the hunger of men for some assurance of beauty in their present lives and their present environment. Utopias are the purest distillations of romance.

I admit the validity of romance in architecture but only upon condition that it be made integral to form. A solicitude for Utopia is inherent in every work of art and is admissible when accompanied by a deeper significance. But that companionship is infrequent in the greater part of our modern practice. We are satisfied to exhibit our feeling for modernity in the naked appearances of our new building techniques. Being without formal values these *represent* rather than express modernity. They cannot, without reshaping of the artist, express anything.

Thus, both the idea which we seek to express and our mode of expression are essentially romantic. They have their principle in association. Just as the idea of human progress is associated with that of mechanical progress, so the products of our technologies — steel construction, plate glass, prefabrications — are made to represent in our minds a social and spiritual advancement. They do not address us as elements in a language of architecture, but as visible evidence of a way of life in which they participate.

Since modern architects had at their command engineering principles and utilitarian satisfactions peculiar to our present civilization, they hoped, by giving these a visual emphasis, to make them bridges over which the spirit of that civilization might enter modern buildings. Those who know modern buildings will recognize the modes of construction peculiar to the present. They will apprehend the new uses set forth in shapes and relationship dictated by these uses, and this will persuade them of a unity between modern architecture and their own necessities and desires. Being aware in our buildings of a control of space congenial to their way of life, they will recognize their own more spacious world within

our stricter boundaries. The visible surfaces of our time will thus be made eloquent of our time.

This is, to say the least, an uncertain eloquence, dependent upon descriptive and technological values. It is in that mode that a suit of armor evokes the Middle Ages and a purple toga the age of Augustus. Steel and plate glass, like armor and toga, are fragments in the outward show and surface of a civilization. Like these they are symbols of a civilization and in the same way gain a dramatic influence by affinities with the civilization in which they belong. No part of their command over our imagination arises from a "vital and essential spirit" with which an architect has animated them, but from sentiments which cluster about them — the sentiments which they illustrate rather than embody. And he knows little about the human heart who does not know that sentiments can cling as closely to a Ford car or an Enfield rifle — or to a steel girder, for that matter — as to Roman toga and knightly armor.

Art is a conscious process, not an accident. The modernity of steel construction is not instilled by an act of the will. Steel girders are modern as Shakespeare is Elizabethan and Disraeli Victorian — because they cannot help it. There is lacking in all of these that intention which is the essential ingredient of art: no one *intended* that Shakespeare should be Elizabethan. No doubt there is an art in selection but, considered as elements of expression, in what way does the selection of a girder differ from the selection of a gargoyle? Each of these, if our minds are so tuned, will summon an atmosphere appropriate to its world, but the art is as extrinsic in the one instance as in the other. One romanticism has replaced another romanticism.

This casual nature of modernity, when dependent on practical invention, will become increasingly evident as the shapes engendered by our new technologies become familiar. They have already ceased to arrest our attention; soon they will not even surprise us. Already we take strip windows for granted, accept undecorated walls as a matter of course and mass production as a normal process of the building industry. Without novelty these no longer symbolize progress; we shall find their affectation of drama and consequence somewhat tedious when we have seen them a hundred thousand times. When that happens our architecture, unfounded in spiritual experience, will lack even the palliatives of a story book.

The aridity of our new architecture — its severity of plane and contour, its precision, its devotion to fact — does not arise, as many traditionalists suppose, from the advancement of our sciences. It arises rather from defeat of our art: from the failure of our architects to make use of new technological forms as the materials of artistic form. No one can stay the swift progression of our sciences of construction or of our techniques of planning, and no architect should wish to arrest these for a moment. But it is essential that we should command them to some harmonies with the spirit of man.

We set out to express the idea of progress, the sense

of achievement and promise with which this idea had kindled our hearts. But the idea of progress, as this took shape in our minds, was too often unconcerned with the values of the general spiritual life; and the method by which we strove to express this idea is not the architect's method — of idea embodied in three-dimensional form — but a romantic method, dependent upon representation and association. The progress with which we were concerned is a philosophical concept originating in speculative thought outside that realm within which architecture finds its expressive themes; and this concept was not translated by free modelings of mass and space into plastic patterns — the architect's true *métier* — but was, rather, exhibited in technological invention and circumstance in the belief that these are competent, without formal values, to provoke a sense of that new world of which they are the magnificent evidence. The idea is empirical; the mode of expression, romantic.

We must be set free from that spell which the lamp of progress, lighted in a province apart from our art, has cast over our minds. We must be free from this present obsession with contemporary materials and techniques to the exclusion of all other bases of design: free to crystallize these into plastic unity and clarity or suppress them altogether; to impose upon them harmony, proportion, rhythmic disposition; to make color, mass, line, and light authoritative means of expression; in a word, free to re-establish the sovereignty of form in the art of architecture.

And how can an architect be free if at every step of his design he encounters structures, materials, or contrivances made immalleable to his will, not merely by considerations of practical necessity but by the more impregnable mortar of esthetic dogma? If, indeed, expression is the supreme law and if the measure of excellence is the degree to which an architect has expressed that which he set out to express, then every element in a building untouched by his shaping hand must be considered an abridgment of his art.

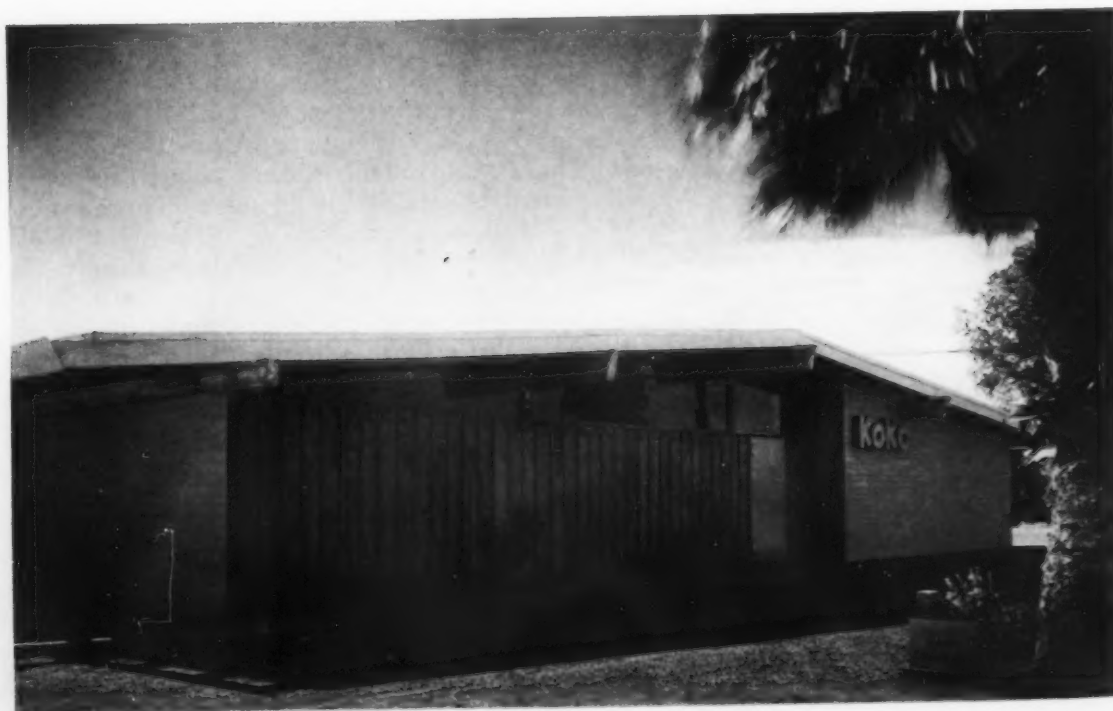
Karl Marx has given the concept of progress a unique interpretation which, I think, is not without influence on architectural practice. It would be proper, perhaps, to call this influence subconscious. The arts, said Marx, are determined in each era by the means of production specific to each era; and he gave to mechanized industry a high rank among those successive heavens to which man ascends through economic ameliorations. Thus, our art advances toward that supreme excellence in which architecture will become a form of industrial design.

To this doctrine Picasso, himself a Marxist, replied: "To me there is no past or future in art. If a work cannot live always in the present it must not be considered at all. The art of . . . other times is not an art of the past; perhaps it is more alive today than it ever was."

Art does not progress.



INFORMALITY KEYNOTES RESTAURANT ON





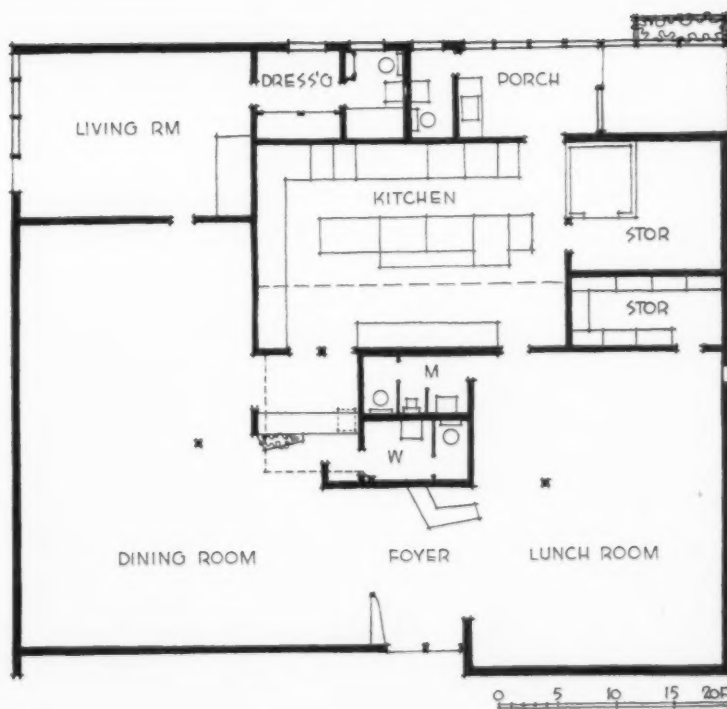
PHOENIX OUTSKIRTS

KoKo Restaurant, Phoenix, Arizona

Ralph Haver, Architect

THE SITE SELECTED for this small restaurant is on the northern edge of Phoenix, adjacent to the winter resort area. Since prospective patrons would therefore include vacationers as well as local residents, an informal atmosphere was an obvious must. Falling in nicely with this requirement was a limited budget coupled with a limit (self-imposed) on critical materials.

Both exterior and interior are in keeping with the informal ranch-type construction typical of the area. The building is an economical rectangle, with all utilities banked for further economy. Foundation is concrete, exterior walls are pumice block; interior walls are painted pumice block or random-width boards and battens. Ceilings in the two dining areas and the owners' apartment are rough wood beams with painted fiber insulation board between the beams.



Simple rectangular plan, grouping of utilities and choice of materials not only kept costs low but also helped to achieve informal atmosphere

PHOENIX RESTAURANT

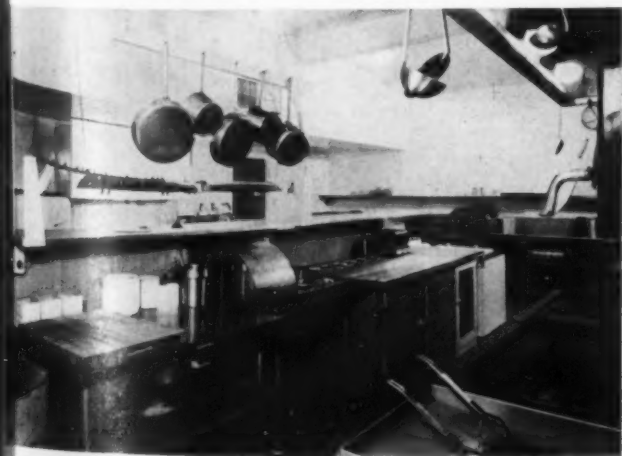


Stuart Welnet





Murals add a gay note to both lunchroom-bar (left, above) and main dining room (above). Ceilings in both rooms are fiber insulation board between wood beams; lighting fixtures were architect-designed

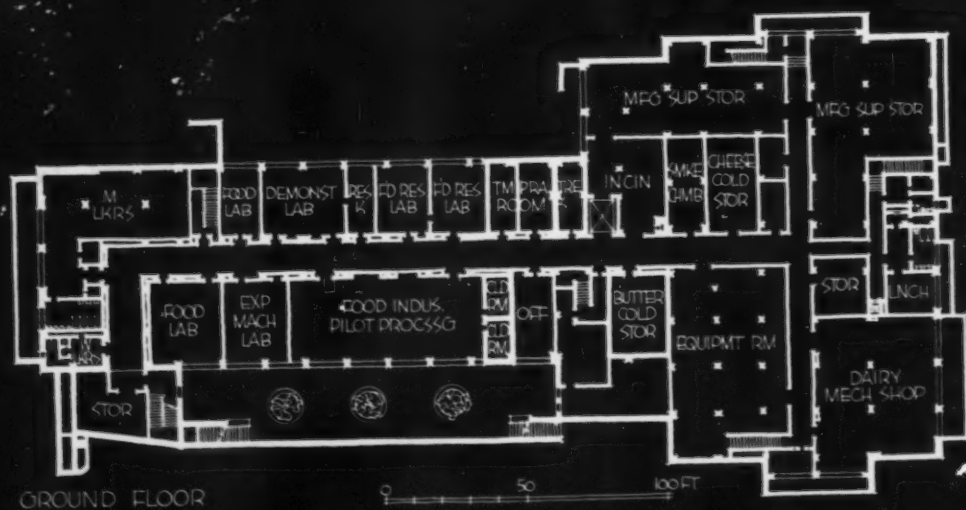
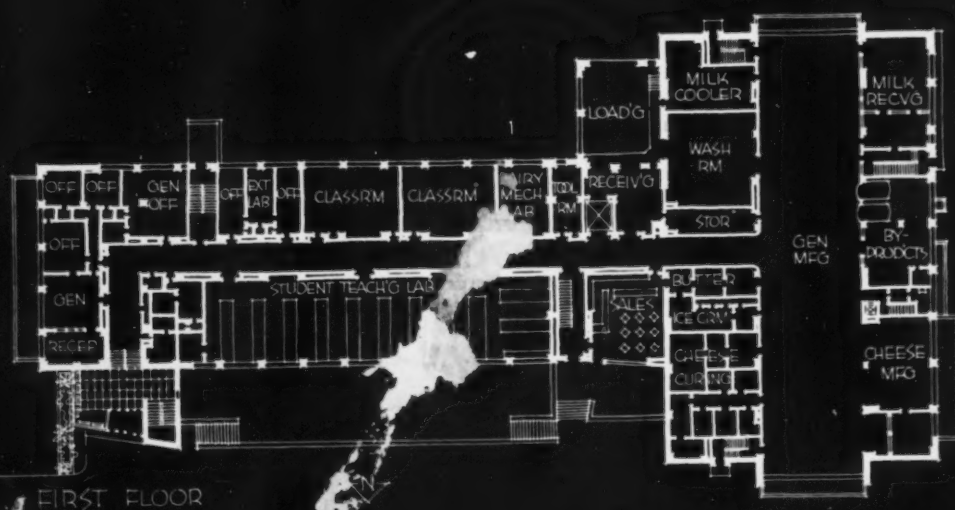
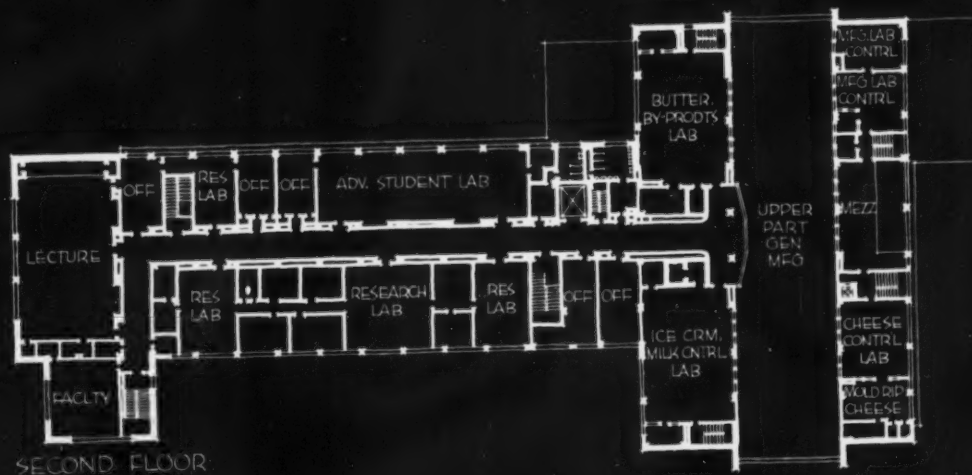


Compact restaurant kitchen (above) serves both dining areas. Ceiling here is plastered, without wood beams

OWNERS' APARTMENT

Below: at rear of restaurant is small one-room apartment for owners. Tiny kitchen (bottom of page) is built into one end of living room





UNIVERSITY OF WISCONSIN'S NEW DAIRY LAB

Babcock Hall, Madison, Wisconsin

Grassold and Johnson, Architects

Hedrich-Blessing

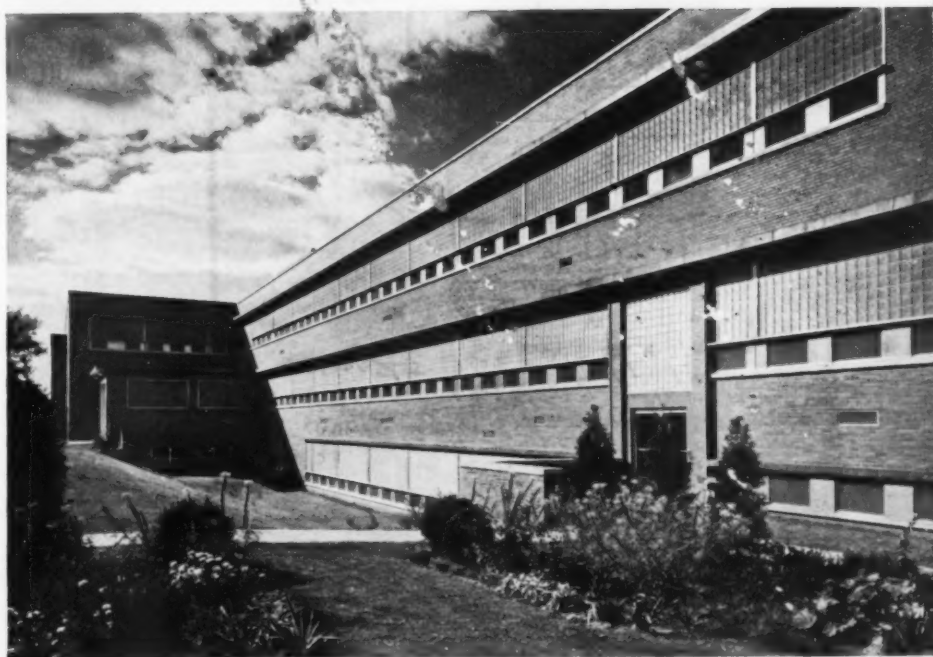
THE DAIRY INDUSTRY has a fine new asset in the University of Wisconsin's clean-cut, well-equipped Babcock Hall, named for Dr. S. M. Babcock, inventor of milk fat test apparatus. Devoted to the study and improvement of milk and dairy product manufacturing, the building is basically a model plant, flanked by facilities for testing, research and instruction. The careful thought that went into planning and selection of materials to meet the exacting requirements of these processes brought the building a first prize in the Second Annual Competition of the Wisconsin Architects Assn.

A number of features were devised to protect milk from contamination, to resist moisture or condensation damage, and to assure easy upkeep. Flush surfaces are used throughout: interior walls are structural glazed tile, glass block; floors in labs and manufacturing area are acid-proof brick tile pitched to drains; asphalt tile floors are used in classrooms, terrazzo in corridors and toilets. Fungicide paint was used on other surfaces to prevent mold.

In the manufacturing area, lights are moisture-proof, hinged for service from attic. Pipes come up through the floor in stainless steel service islands, then run horizontal to equipment, to reduce leakage through floors. Some labs have an overhead bus system for utilities to permit quick installation of equipment for teaching purposes.

Special ventilation and air filtering devices assure pure air supply and prevent spread of mold spores. Work areas have air pressure slightly above atmospheric level to prevent entrance of contaminated air. Heating is from a central campus power plant.

Joseph H. Volk was heating and ventilating engineer; L. R. Schmaus, sanitary engineer; and Wanty & Associates, electrical engineers.



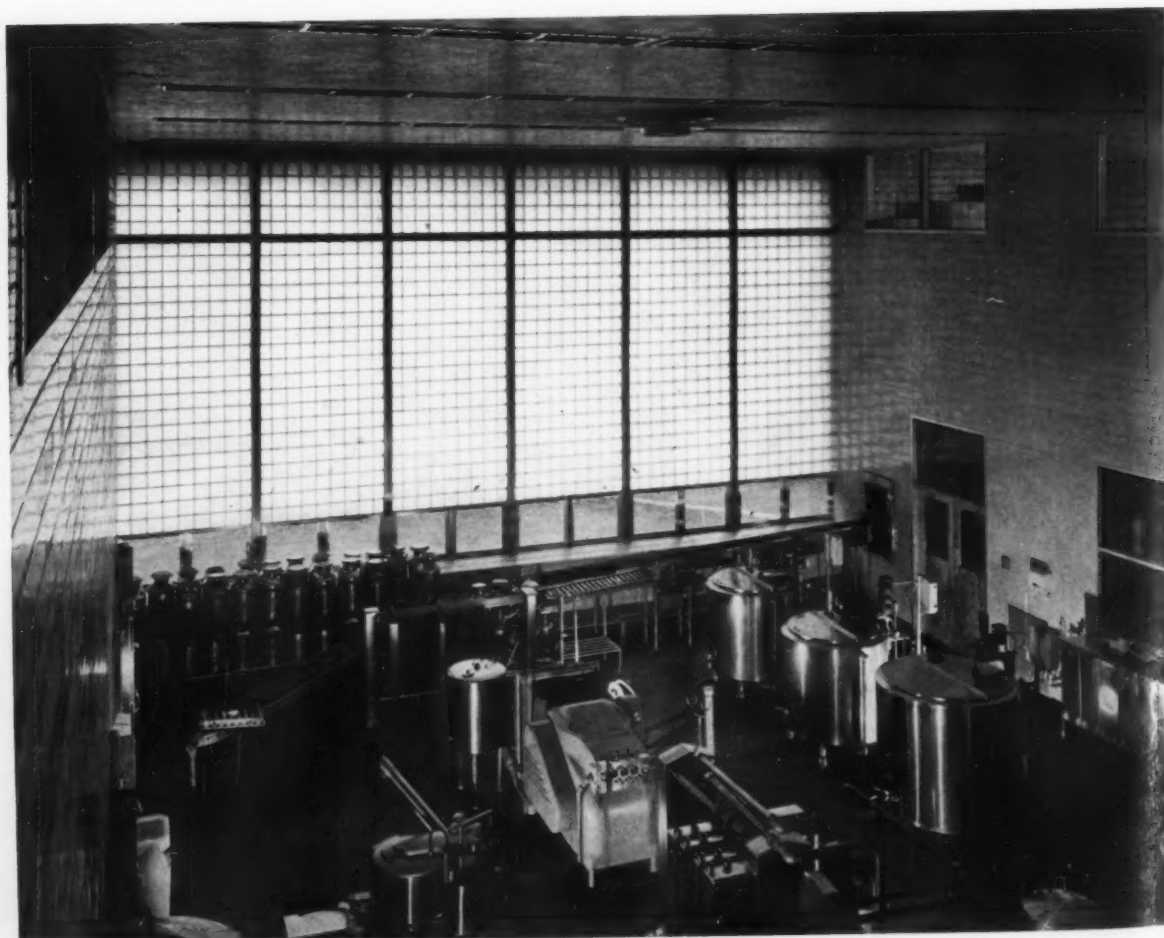
Babcock Hall has reinforced concrete and structural steel frame, face brick exterior, limestone and granite trim

WISCONSIN DAIRY LAB



Hedrich-Blessing

Directional glass block gives good daylighting in food processing labs (above left) and manufacturing area (below). Observation gallery (above right) overlooks the main manufacturing processes





Color and reflectivity were carefully considered in the selection of finishes of equipment and woodwork in lecture hall (above) and research labs (below)



ARCHITECTURAL INTERIORS

Design | Details | Materials | Equipment

Pan American Ticket Office

Carson and Lundin, Architects

DAYTIME TICKET OFFICE—NIGHTTIME DISPLAY

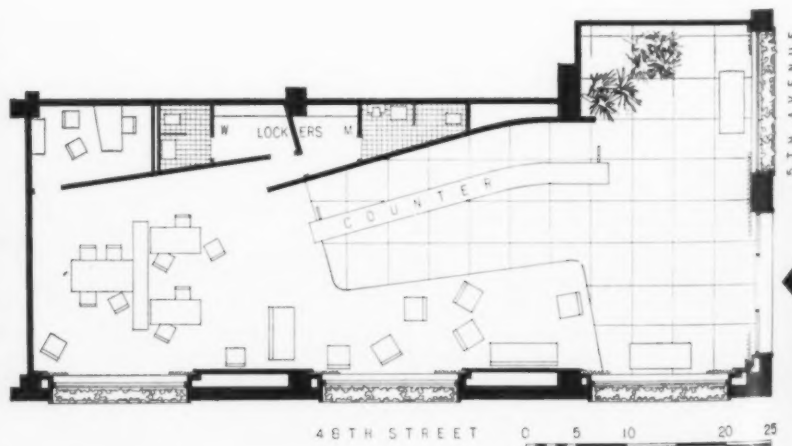
CAPITALIZING on the fact that New York's Fifth Avenue attracts many evening strollers as well as the daytime crowds, the architects for this ticket office have created a two-way lighting scheme: first, a pattern of downlights to illuminate the room, counter and map for the daytime trade; while the second system, for nighttime display, aims a group of floods at the decorative map from its facing window walls.

Located in the Sinclair Oil Building, newest addition to the Rockefeller Center Group and designed also by the same firm, this midtown office for Pan American World Airways is devoted solely to ticket sales and tour

information. The limited space contains in addition only necessary lockers, toilets, and a small office.

Natural gold colored bronze is used for the exterior glass frames, doors, plant boxes and lettering. Japanese yews are planted under the large windows.

The principal focal point of the interior is the large wall map of the world which shows Pan American routes. Designed by Robert Foster and executed by Rambusch Decorating Company, its surface is coarse textured canvas painted in white, off-white and black, with the route lines in gold leaf. The panel is enclosed within a heavy yellow bronze frame.



Exterior, left, faces the corner of 48th Street and Fifth Avenue, which is the southernmost portion of Rockefeller Center



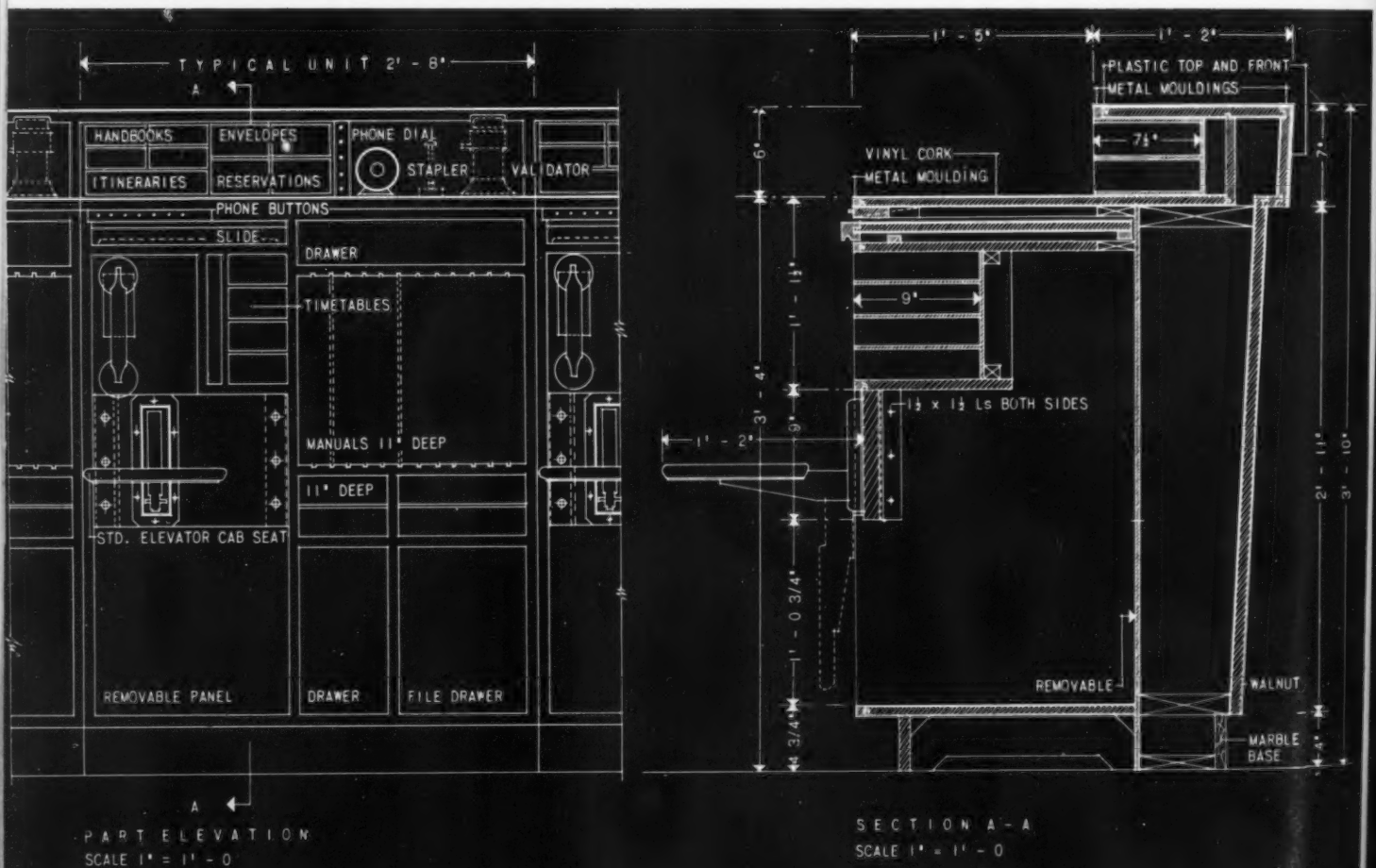
Ezra Stoller



PAN AMERICAN TICKET OFFICE

Carson and Lundin, architects

Color is skillfully handled: the vivid reds and blues of the furniture upholstery are dramatized by means of surrounding them with a monochromatic foil of light and dark grays, the only other color occurring in the deep blue of the map wall. The ceiling is light gray, the window walls are off-white, the floor is white terrazzo and dark gray carpeting, the wood of the counter and furniture is ebonized walnut, the counter top is gray plastic, and the curtains are a black print on transparent linen gauze in rough texture.



Drafting by Mogens Iet

The counter provides space for eleven sales representatives and a cashier. Its carefully studied two-level design and myriad technical features are a successful innovation in the owner's operation. The die face is ebonized walnut to match the room furniture

2' - 11" 7" 3' - 10" 4"

D



ARCHITECTURAL INTERIORS
Design | Details | Materials | Equipment

Erro Stoller

Philip C. Johnson, designer
Landis Gores, associated

A CONNECTICUT



CUT HOUSE FOR A TELEVISION EXECUTIVE

House for Richard Hodgson

UNLIKE THE FUSSY RESTLESSNESS that characterizes many houses, this design achieves both clarity of expression and a feeling of repose. The essential horizontality of the structure's disciplined envelope and its quiet colors contribute to its restfulness, as does the simplicity with which masonry and voids have been handled. Careful attention to detail, insistence on a high standard of craftsmanship, and the studied articulation of surfaces and materials are all factors in the effect of orderliness.

To achieve the necessary separation of living, sleeping and service areas in a manner maintaining privacy with a minimum cutting apart of these elements, they have been arranged in U shape about a landscaped patio which becomes the major focus of the design. Such a scheme yields some of the amenities of the attenuated "zoned" plan in more compact form. A future bedroom wing to the east will complete the scheme.

The roof construction consists of wood joists framing into steel girders supported by masonry and the four interior steel H-columns. With the exception of a small area, the floor slab is built on grade and contains hot-water radiant heating coils.

The ceiling is white acoustical plaster; the walls pale gray glazed brick, white plaster or oak; the floor is black ceramic tile; all exposed metal is painted charcoal gray.

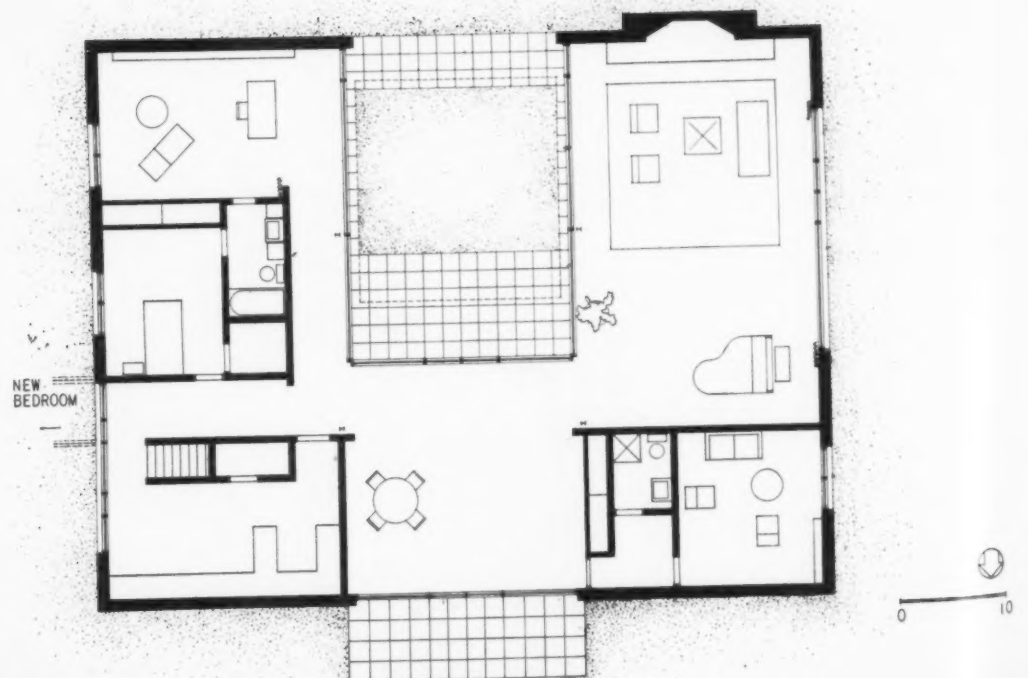
Ezra Koller

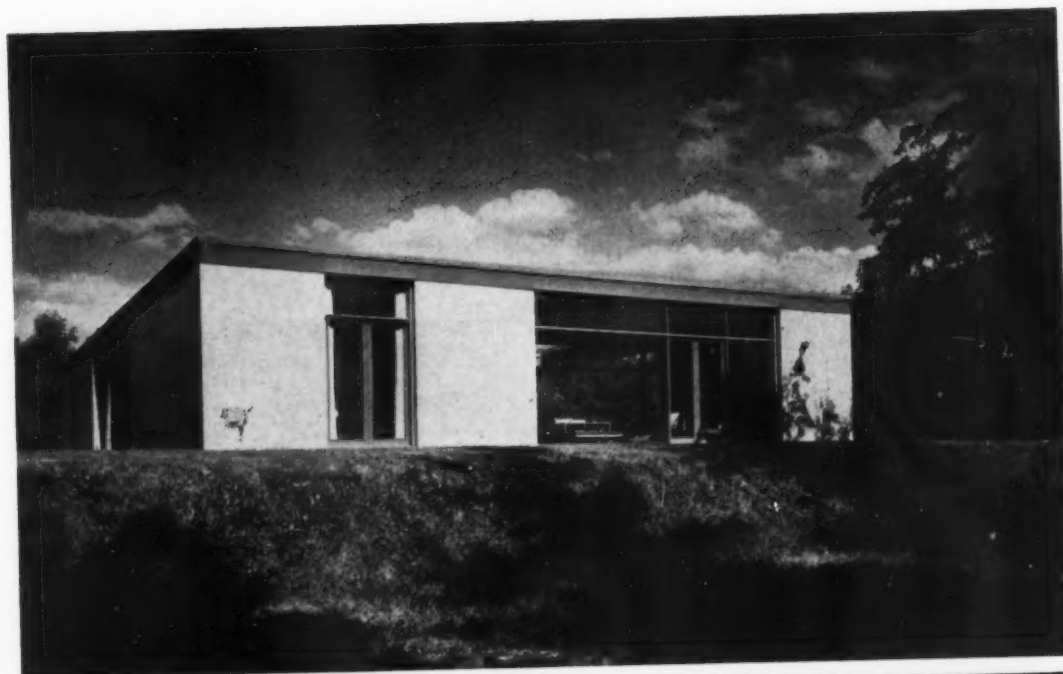
New Canaan, Connecticut

THE HODGSON HOUSE, NEW CANAAN, CONNECTICUT



Ezra Stoller

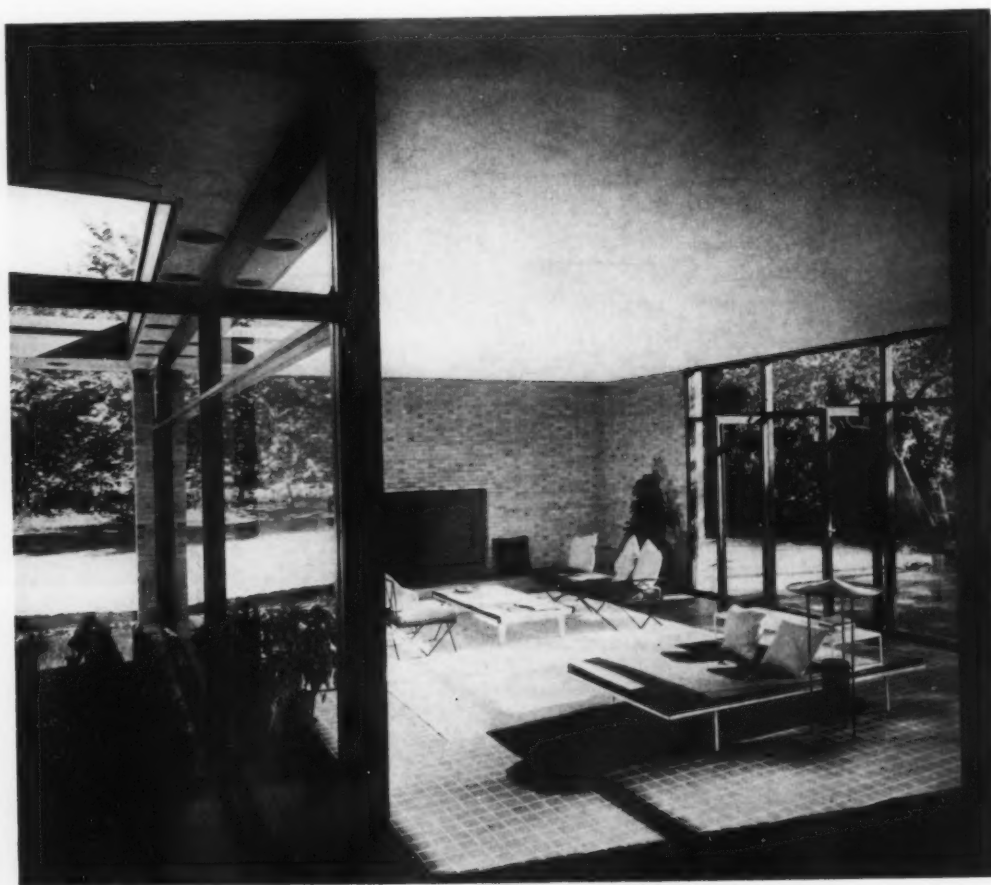




The house is located on a wooded hillside overlooking the valley to High Ridge beyond and is set in a clearing on a gently raised earth platform much in the spirit of the historic podium. The three pictures above, right and left, show the exterior elevations from as many directions



Glazing the plane on axis with the patio gives the interior direction and yields a "through" effect



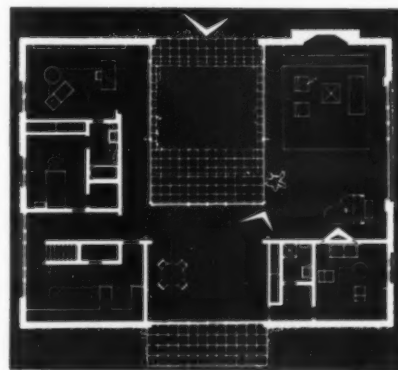
Ezra Stoller

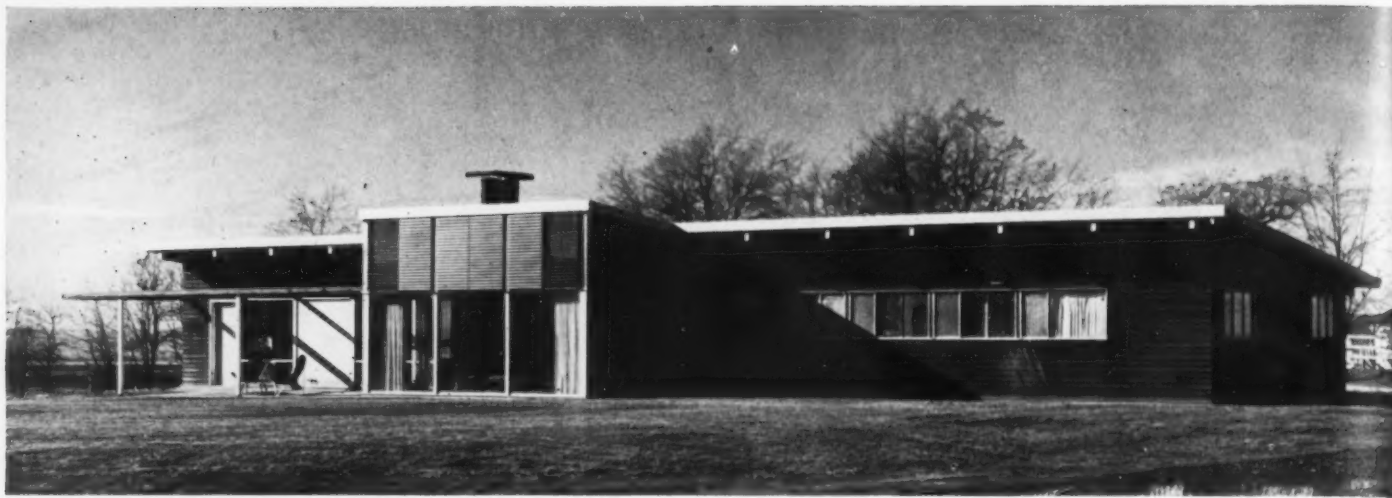
THE HODGSON HOUSE, NEW CANAAN, CONNECTICUT

Looking into the patio from the clearing, top left

View from entry into living room, bottom left

Large recessed fireplace is living room focus, below





Chas. R. Pearson

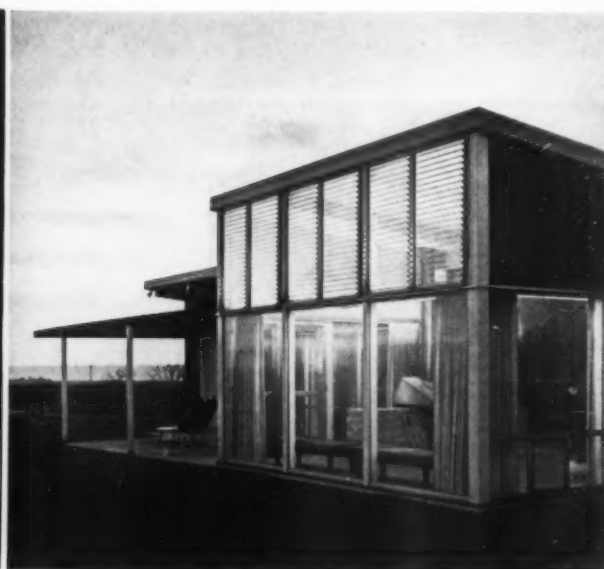
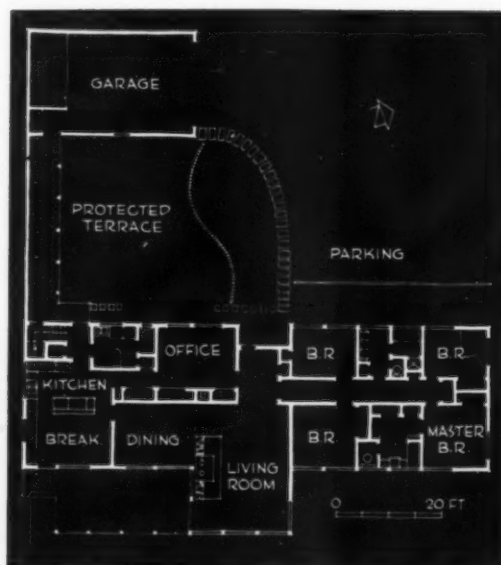
RANCH HOUSE (no quotes): FOR THE (



Residence for Lawrence Minnick
Lawrence G. Waldron, Architect

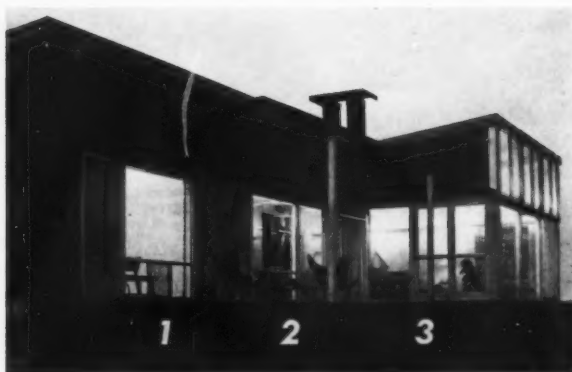
DESIGNED FOR A RANCH in the dry rolling hills outside Walla Walla, Washington, this trim little house provides compact, yet open and roomy quarters for a family of five. Ample outdoor living areas, broad windows and exterior aluminum blinds on the upper portion of the living room sash provide against the hot summers of the area. All major rooms face a distant mountain view and are oriented against the prevailing southwest winds. The west terrace is for spring and autumn use.

THE (once) WILD WEST

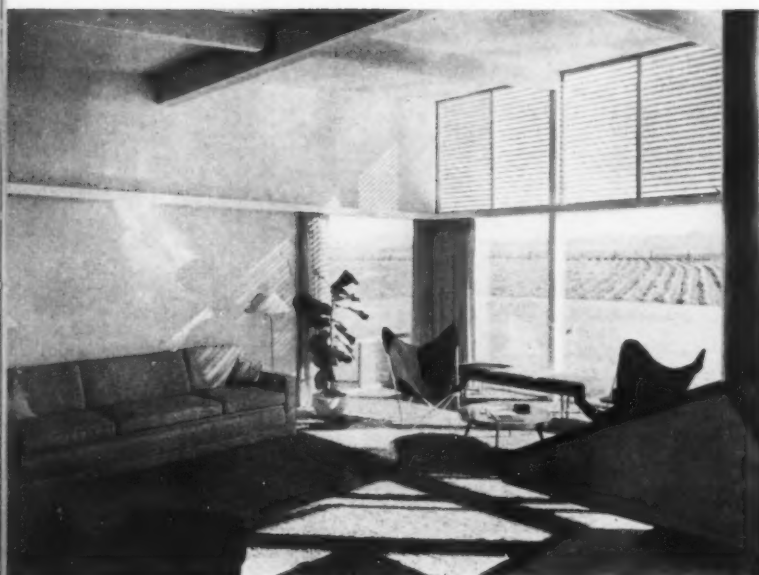


In addition to the abundance of glass and outdoor living areas, a sense of spaciousness is gained in the living-dining area and in the kitchen-breakfast room by the use of suggested divisions rather than partitions. The house is wood frame, with stained cedar siding. Interior walls are plaster and varnished wood; ceilings are acoustic plaster, floors are red oak, cork or vinyl tile. Window sash and screens are aluminum. A winter air conditioner is used plus cooling coils for well water circulation.

RANCH HOUSE



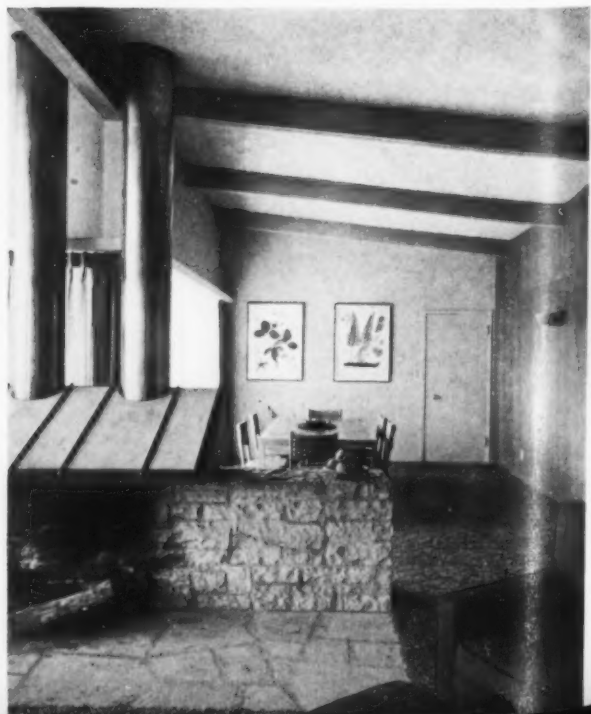
1 Major rooms all open on view, including breakfast area. Kitchen cabinets are birch, equipment is electric. Floors are vinyl tile



Chas. R. Pearson

2 The dining area is separated from the living room by a freestanding fireplace

3 The living area has aluminum blinds over upper portion of windows, draw curtains over lower sections to temper the sun



®

Since the mid-1930's, when research on what is now becoming our American educational pattern began to crystallize, ARCHITECTURAL RECORD has published an average of two school Building Types Studies a year. In these 30-odd studies we have translated teaching requirements into programs for building design. Engelhardt, Engelhardt & Leggett were educational consultants for nearly all the school buildings shown in this month's study.

SECONDARY EDUCATION AND ITS BUILDINGS

What is the nature of the coming high school curriculum?

What will high school buildings be like?

FOREWORD

In January, 1953, a small group met in Charlotte, N. C., to discuss the evolving secondary school program and the buildings it will need. All of us — architects, educational consultants and school administrators — were conscious of the continuing need for elementary classrooms and of the tremendous curricular, administrative and financial problems that face the country at all levels of public education; but because development of elementary schools has, generally speaking, reached a fairly high plane we felt we could let that subject rest for a while.

Charlotte's 18-month-old Myers Park High School has a campus plan, and as its buildings are built is coming to have the facilities needed for good teaching and for a constantly developing program. In recent years one national curriculum trend has been toward what is variously called the common learnings, general education, or life adjustment program, or any of several other names (ARCHITECTURAL RECORD Nov. 1952). Myers Park High School gave us the chance to study a plant and an evolving program in operation, to gain knowledge against the day when the secondary school building problem, now beginning to plague us in isolated instances, should become as acute generally as the elementary is today. Seven of us descended on the city:

William Curtis, Superintendent of Schools, Wallingford, Conn., who has an immediate high school building problem;

N. L. Engelhardt, Jr., member of the firm of Engelhardt, Engelhardt and Leggett, educational consultants;

Monzo J. Harriman, architect, member of the A.I.A. Committee on Schools, from Auburn, Maine;

Stanton Leggett, also of Engelhardt, Engelhardt and Leggett;

Frank G. Lopez, of ARCHITECTURAL RECORD;

John W. McLeod of McLeod & Ferrara, Architects, Washington, D. C., and Chairman, A.I.A. School Committee;

Joseph W. Molitor, architectural photographer, who photographed what we were discussing.

In Charlotte we added to our group:

John French, Principal, Myers Park High School;

Elmer Garinger, Superintendent of Schools, City of Charlotte;

James Stenhouse, of J. N. Pease and Co., architects and engineers of the Myers Park High School.

We met and talked with *James R. Lyles*, Assistant Superintendent in Charge of Instruction, City of Charlotte, and others in the Department;



The Educational Climate



with teachers from Myers Park and with students. We probed into all the buildings on the campus, noting facilities, conduct of classes, attitudes and methods of teachers. We tried to evaluate their effects on the pupils. We discussed what we had seen until the wee small hours, and continued the next day, some of us longer. Our talk ranged far beyond the limited application of principles at Myers Park; some exciting potentialities began to formulate themselves.

Charlotte and Its School System

Charlotte has no one large industry to support its people. While it does have a healthy pattern including small industry, commerce, and business and professional activity it is primarily a distribution center. This means that much of its population is "white-collar" and a high percentage of its high school students go on to college. (Although statistics from Myers Park High mean little yet, since it has been in operation only a year and a half, 93 per cent of the school's first graduating class are continuing their education. This high figure was reached partly because the Myers Park area is one of Charlotte's choice residential districts.)

Charlotte's people are moving out to the suburban periphery and its schools, elementary and secondary, are following. The school housing problem is acute at all levels of the 6-3-3-2 system; the city's two junior colleges use existing high school facilities for their combined vocational and collegiate program. Myers Park High is one of the new schools just inside city limits, on a 75-acre site. It was designed as a senior high school, but due to shortage of space elsewhere has had to take in junior high students. Enrollment this year is about 1200; when all the buildings now intended for its undulating campus are built, its design capacity will be 2000; it will probably have to accommodate more. This expected crowding, similar existing conditions in Charlotte's other secondary schools and the popularity of the junior colleges are a few of many indications of the increased "holding power" of schools, a phenomenon visible also in other cities and one which aggravates the educational effects of recent high birth rates plus normal population growth.

Discussion

Most of our talk was tape-recorded. We began by asking Nick Engelhardt and Stan Leggett, as the educational theorists present, what a common learnings program is. We learned something of its variety; simplest, perhaps, is the mere relation of two or more basic and compatible subjects — language arts and social studies for instance — which can be taught in close association in class periods longer than normal, to allow time for exploring their interdependence. Far more complex is the radically different approach which employs to the full the "learning-by-doing" or "experience" method; in an extreme instance a group of students chooses a problem or series of problems and, led by teachers who often have to learn with the group, obtains familiarity with mathematics, sciences, history, languages, practical and fine arts, and so on, in the course of finding a solution. Subjects are taught as tools to work with, exactly as they are used in adult life. Principles are learned by their actual development through real experiences, not by accepting statements of theory from textbooks. Following this, the conversation (somewhat edited) proceeded:

ENGELHARDT: Bill (Curtis), what would you say is the fundamental purpose of public education?

CURTIS: Why, creating good citizens, I suppose.

LEGGETT: Then which is important, facts that have to be learned laboriously by rote, or learning how to use those facts and others — which we can dig up as we need them — when we meet problems in every-day life?

HARRIMAN: Well, what is the learning process? Is learning an accumulation of memories? Is memory the same thing as mental capacity?

ENGELHARDT: We're not discussing memorization. We don't think of the mind as a quart basket to be filled or a muscle to be developed physically. We don't know much about the learning process, but it does appear that actual experience, meaning sensory contact with all sorts of things and their use in real situations, does speed up learning. Facts and processes come to have more meaning.

Myers Park High School, Charlotte, N. C.; J. N. Pease & Co., Architects and Engineers. Of its projected buildings, only those shown in green on rendering (opposite) are now built: left to right, gymnasium; student center containing lounge, cafeteria, guidance and administration; library building (also contains classrooms); physical and natural sciences; boiler house at upper right



Joseph W. Mollitor



Photos of Myers Park High School: top, entrance, student center; middle, from terrace of student center toward library; bottom; from library toward student center. Inset: students crossing from classes in library building to student center; few campus paths have been laid out, may follow routes students use



Myers Park. left, group inspects site of field problems, directed by science teacher (Frank Eller, extreme left). Right, exterior of library from grassy bank; in fine weather, outdoor reading is encouraged



STENHOUSE: Yes, you can get more from one look at the Grand Canyon than from two hours' reading about it.

LEGGETT: There's much more to be learned nowadays than there used to be, to fit youngsters for life in our mechanical age. We have to develop and improve ways of learning more quickly, and we've had some success at the elementary level, I think. The elementary school used to take a full eight years, universally; it was mostly memory courses or subjects. Now it takes only six years in many places, six years of experience learning, and children go much farther educationally than they used to in eight. And at the same time, all types of people are sending their children to school for a longer term of years; right here in Charlotte the holding power of the high school has about doubled in ten years.

HARRIMAN: Is the school solely responsible for that? We have a higher living standard, and some credit for advance must be due the publications, television, radio and the movies.

MCLEOD: Is it important that, today, so many high school graduates can't spell?

ENGELHARDT: I wonder if we do turn out more poor spellers now than fifty or even twenty years ago?

LEGGETT: Matters like learning to spell correctly and the many other rote-learnings are important to an extent; but their importance has to be balanced against other things we demand of education. For instance, one job a school must do now is try to make up for experiences children used to have within their families or in normal daily routines. Many experiences we call common, remembering our own youth, just are not common today. The child seldom works now with the father or mother in the home or business or farm. Maybe lack of these domestic influences is a reason for the incidence of symptoms of juvenile delinquency.

HARRIMAN: Improvement in physical education programs could help in that respect.

LOPEZ: Add to the other factors the problem of the commuter-father; his influence is very limited.

MCLEOD: But it's only a few years since working people worked from 6 A.M. to 6 P.M., six days a week, and saw their children even less. That's not a new problem.

ENGELHARDT: Another result of our broadening civilization is that in secondary school we've piled subject on subject until the program is terrifically complex. There is so much for the student to encompass that the subject-matter approach won't do. Experiences that we never used to dream of have to be made available to children and, conversely, some things have lost value, particularly if we regard the school as a maker of good citizens.

MCLEOD: That's an answer to my spelling question. But how can a child learn $2 \times 2 = 4$ except by rote, or counting on his fingers?

LEGGETT: As I said, of course there has to be some memory work. But the city child's reading primer, all too often, still contains the phrase, "O, O, O, see the cow". There is no cow for him to see, so "cow" means just as much to him as "OOO". We want him to see, touch, hear, even milk the cow. And at secondary school level, have you heard of the group of children who accumulated about fifty dollars some way, got together scrapped things from junk yards, made some parts themselves, and by the end of the year had a working cyclotron? Splitting an atom is a real thing to them, not just a phrase.

For another thing, in the past it was fairly easy to put together a logical curriculum composed of that day's necessary subjects. But as we have added more subjects, order and relationships have been lost; there is only a false chronological order remaining.

LOPEZ: The experience program makes tremendous demands of the teacher, doesn't it? What happens when we have, as we do now, many teachers not qualified to carry such a load?

ENGELHARDT: It does challenge the teacher; and teacher-training standards, like others, do rise too slowly. But that should not be the criterion for designing either the curriculum or the buildings.



Myers Park: photos above, library interior; balcony end now does duty as study hall; under it are conference alcoves, office, work room, listening booths. Fireplace corner was intended to have lounge furniture. Below: student lounge and soda bar

Joseph W. Mollitor



MARCH 1953



Delma

HARRIMAN: John (French), last year didn't you run two-hour periods and allow about ten minutes between classes? And this year you have shorter periods?

FRENCH: Yes, we had some two-hour classes last year. Some teachers and students had difficulty adjusting to longer periods and every-other-day classes. This year we've changed to one-hour periods; but with more changes between classes, we had to cut the change time to five minutes. It hasn't been too good; we've been ruled by the clock too much. So we're going to have to allow about seven minutes per change, and we may reinstate some two-hour periods in certain classes.

HARRIMAN: Does the fact that there is a campus plan at Myers Park affect the length of period?

FRENCH: Yes; or perhaps I should say we've had some requests for longer periods this year. And in classes devoted to any kind of creative activity, where it takes time to kindle the creative spark — well, you hate to ring a bell and extinguish that spark.

STENHOUSE: In a traditional high school, say three floors, class changes take as long; going up and down stairs, and congestion . . . well, you can make an equal distance horizontally . . .

GARINGER: We learned the disadvantages of short periods all over again when one class started preparing a history of Mecklenburg County in slides. Frequently we had to stop because the students had to attend another class instead of proceeding for an hour and a half or so. We had invited speakers in to tell us certain things, and they, as well as the students, were often cut short.

STENHOUSE: Yes, that happened to me. Maybe just one subject a day would be ideal.

GARINGER: It might get monotonous. But long ago in Charlotte we tried 80-minute periods, four per day. We made our field trips really count then, trips to cotton mills and business houses. We got the idea from Lincoln High School, Lincoln, Nebraska. Far as I know they're still using it.

Physical Education Facilities

LOPEZ: Alonzo, a while ago you spoke of physical education. Myers Park has a new gym, just opened and full of youngsters. I'd like to ask the educators among us: What good is the traditional gymnasium? Does the spectator sport improve the physical condition of students? Does it tend to exclude non-participating students? In terms of buildings, does it not postulate a very expensive facility, of rigidly uniform design?

LEGGETT: The average team sport that brings out a large squad does benefit many students.

ENGELHARDT: Quote: a good interscholastic team helps to make a school's reputation; and it's true that the standard gym across the country is designed for varsity basketball and 1500 spectators. End of quote. Stan, why don't we have non-team, non-competitive sports?

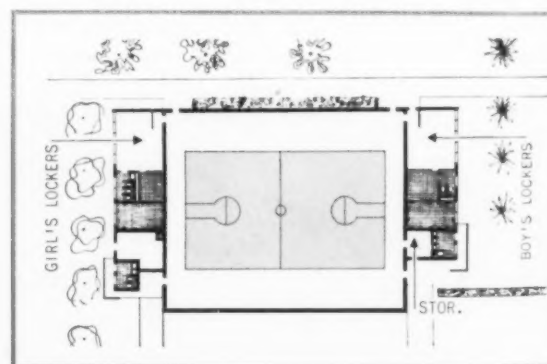
HARRIMAN: Your team sport benefits only a few in each class, and some of those few are done positive harm. Too often the high school star reaches his peak importance then, during adolescence, and he never recovers afterwards. You know, when I was in Europe looking at schools I found their gymnasiums were different than ours. They don't spend the money we do — principally to benefit spectators.

MCLEOD: Yes, their gyms are small. A lot of them have swimming pools.

ENGELHARDT: Swimming is one sport everybody can participate in.

FRENCH: To an extent, we have such a program at Myers Park. Bear in mind that we don't have all the buildings built yet, that we got our gym just last week. We use areas both indoors and out. Some activities are team games, some are not.

LEGGETT: However, all physical activities need a certain area and volume. Providing spaces for individual sports won't reduce the total building volume; but



making room for the one that takes the most space can make many of the others possible.

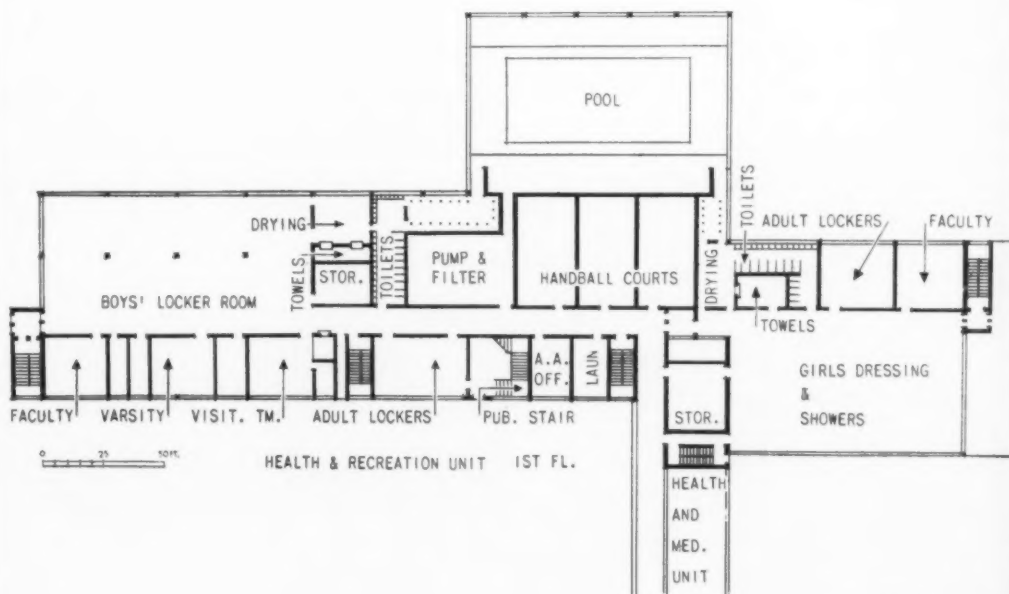
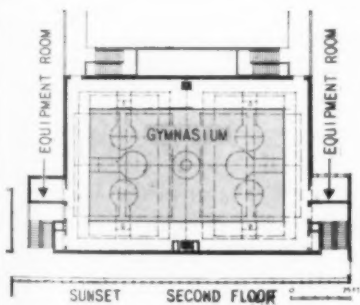
LOPEZ: You mean basketball? Which is more important, participation or competition?

FRENCH: Participation, of course. But we have some 120 students per class, half boys and half girls. We don't expect our typical gym structure to dictate a program of just team sports. We do have some semi-basement space, low-ceilinged, that we can use for other purposes.

ENGELHARDT: I'd say the secondary school needs provisions for all kinds of physical activities. Curtis, in Connecticut would these all have to be under roof?

CURTIS: To a degree. We'll need a raft of different kinds of spaces. We want physical education daily, not three times a week. In general, I believe physical education people would like to emphasize the intramural program more than interscholastic sports. However, the average layman, who makes up the community and pays the bills, does not yet see the value of an intramural program. He's likely to in-

A comparison of practical and theoretical: facing page, gymnasium at Wagener 12-Year School, Aiken County, S. C.; W. G. Lyles, Bissett, Carlisle & Wolff, Architects. Below, gymnasium at A. P. Giannini Junior High School, Sunset Community Center, San Francisco, Calif.; Thomsen & Wilson, Architects. This is one of a group of schools comprising the center (A. R. March 1952); there is considerable outdoor space for physical education



Right: theoretical scheme developed some years ago by N. L. Engelhardt, Jr. with Harrison & Fouilhoux, Architects, for complete 3-story physical education unit containing most of the facilities considered desirable

sist: "We want to see our team perform. We want a swell gym." The school has to go along with his demand for a traditional gym and hope that space for intramural and non-competitive sports can be added later.

ENGELHARDT: And nine times out of ten you get a gym for 1500 spectators, period.

CURTIS: That's often true. The extent of the floor — probably the most expensive single item in a school — dictates design.

GARINGER: How about not flooring the entire area? Could part of it, maybe under the bleachers, have a dirt floor?

LOPEZ: Very likely you'd find temporary, removable flooring being installed over the dirt.

GARINGER: Temporary flooring is unsatisfactory. Could the space be arranged in use areas so flooring cannot be installed? And we need outdoor paved area for games, and so on.

CURTIS: We need outdoor space even in the northeast states; we use it in all but the very worst months. Perhaps paving could be radiant heated to get rid of ice and snow?

HARRIMAN: In Maine we use it even in snowy weather, but paving presents problems. Our frost action is very severe.

LOPEZ: What about fishing, hunting, camping, the use of firearms? These need little construction and need not overload the teaching staff. They're non-competitive, and can be valuable in after life.

LEGGETT: So can some competitive games, such as squash, handball or badminton; but these take so much space for so few students that we must virtually rule them out; while such a game as basketball

can and does occupy many students. Although the court is large, it can be justified.

HARRIMAN: How many students did you say use the Myers Park gym at one time?

LEGGETT: It was designed for 80. It is now used by 120. As total enrollment increases to the anticipated 2000, the 120 per physical ed period will grow to 160. Suppose there is bad weather for three weeks running, and all must be taken care of indoors; how in heaven's name can you provide 160 pupil stations? Say there are 80 engaged in team sports; that leaves another 80 for low-ceiling activities, and, brother, that's a whale of a lot of space! Particularly when non-competitive sports take more than competitive.

CURTIS: In some gymnasiums there is open space not used for courts, but for other activities. Could such areas have lower ceilings, to reduce volume?

HARRIMAN: How about mezzanines in such areas?

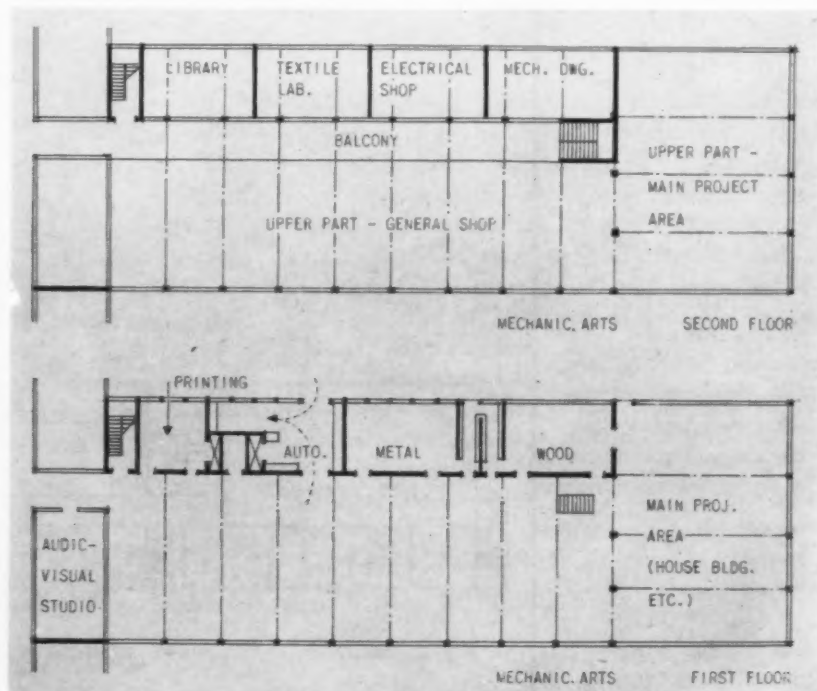
FRENCH: Yes, we could use a building designed that way for a participation program. And maybe we'll get the field house that's planned, some day.

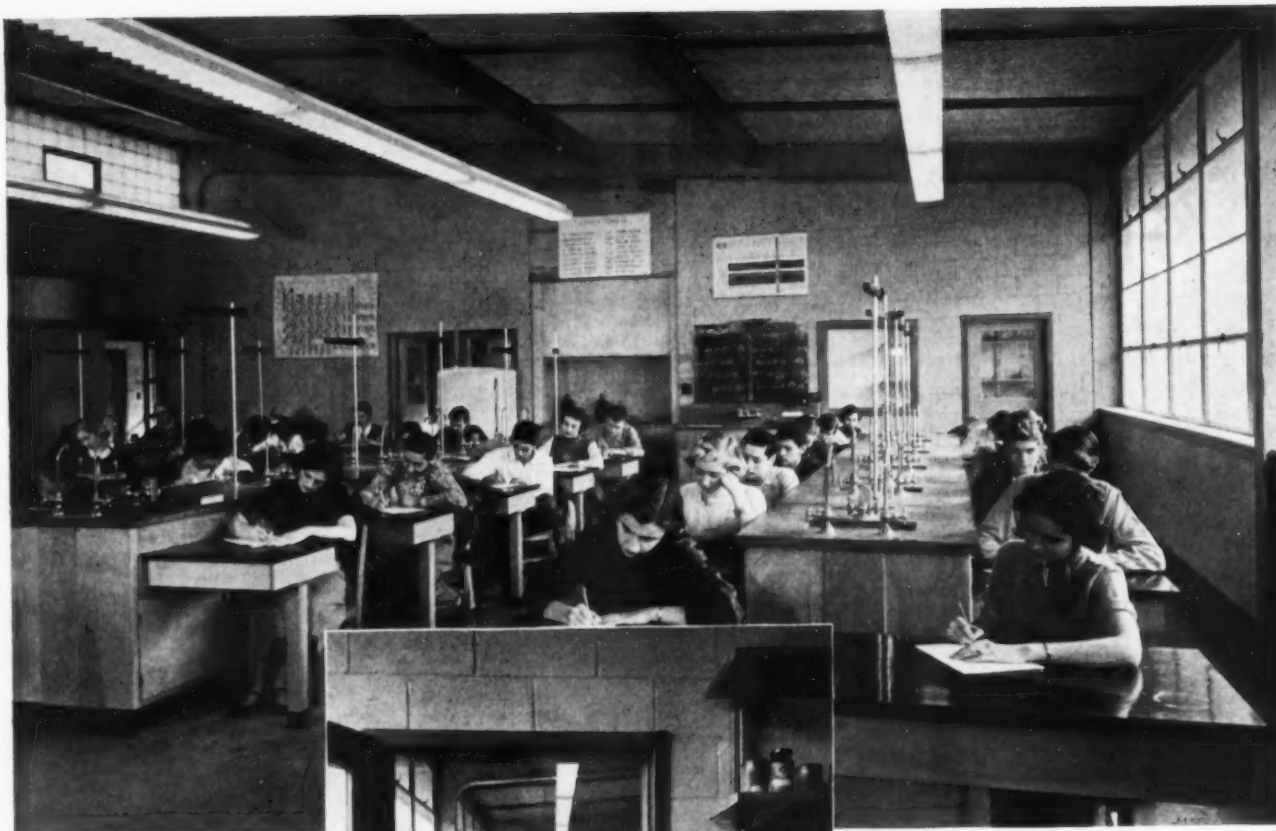
The Arts, Crafts and Sciences

HARRIMAN: Your long-range plan for Myers Park shows shop buildings over at one side, near the science group. Could they be nearer the auditorium, maybe even a part of the stagecraft unit? Lots of stage work is shop work, and as long as we're talking about integrating courses or subjects . . .

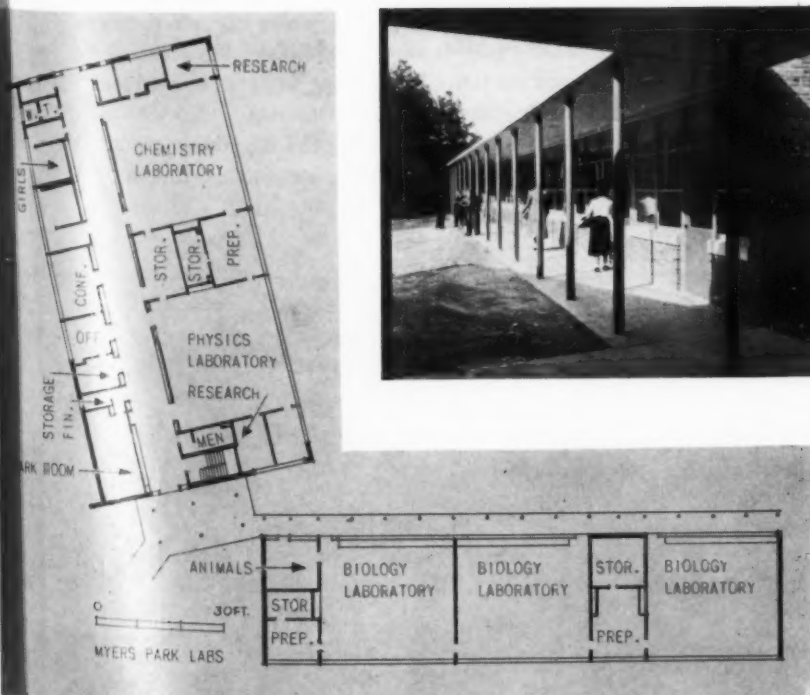
ENGELHARDT: Shop activities in relation to stagecraft are quite different from the shop as a place for acquiring skills. The facilities are different. All a high school uses on a stage is one set of flats which are repainted over and over again. You need storage

Scheme for "mechanic arts" unit—now generally referred to as "shops"—developed some years ago in the then existing office of Harrison & Foville, Architects; N. L. Engelhardt, Jr., Consultant; building design concept has changed little up to present, though educational concepts are beginning to change





Joseph W. Molitor



Science buildings at Myers Park: top, physics lab-classroom; note charts affixed to concrete block wall. Center, view from preparation room into another laboratory. Left, outdoor corridor, natural sciences building. Above, animal room; at present stage of school development this may not be essential, though in future it is expected to be needed

for a few cans of paint, plenty of space with a balcony or ladders, and more room for storing scenery and properties. On the other hand, a shop set-up has a number of different teaching areas: carpentry, metal-working, printing, electrical, art, ceramics, automotive, and so on. Each has a complement of special equipment.

MCLEOD: We've been talking about an experience program. Well, when children build sets and properties, they're using the techniques of the arts, generally — mathematics, electrical service, even historical research; and they're building something for actual use.

ENGELHARDT: Most properties could be made on a couple of small woodworking units. That's still a lot different from a shop to teach carpentry skills.

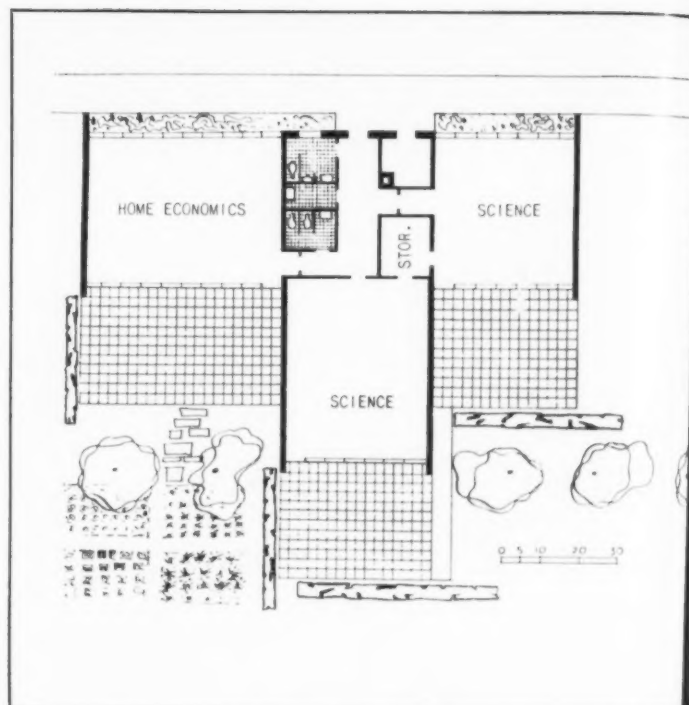
HARRIMAN: I don't see that the difference warrants duplicating space and equipment. We're working now with Cole of the Yale drama school; he insists on having the shops adjoining the stage. We're putting a slot in the backstage floor so flats can be lowered and painted. It seems to me that when shops and stage are adjoining it's easier to have the interest and participation of more children.

ENGELHARDT: Where does driver education go? That's a shop activity. What has it to do with the auditorium?

LEGGETT: The way we integrate these learnings is strongly influenced by our traditional attitude toward them. We've always considered development of manual skills or personal talents as something apart from academic progress. I don't see how we can continue to separate them; and if art, for instance — including dramatics — is no longer to be a thing apart, our traditional program and buildings are going to have to change, too.

ENGELHARDT: Why shouldn't the metal shop be near the science unit? We've proposed that it be at Myers Park principally because Frank Eller, the science teacher there, needs shop facilities.

GARINGER: His pupils are always busy on projects, working models of motors and such; that's the way they learn the principles of physics, not out of text-



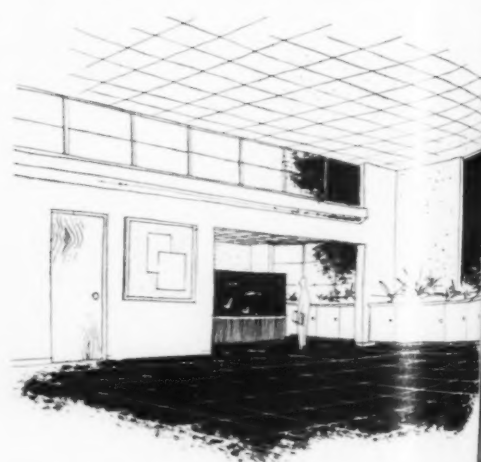
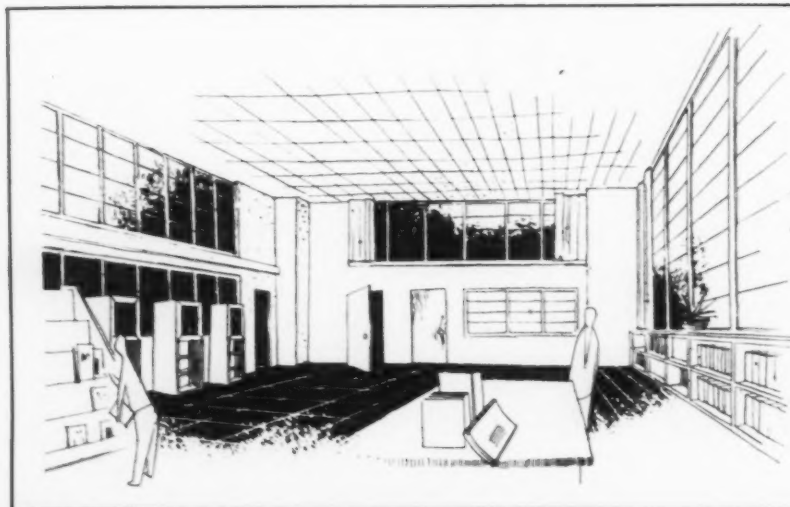
books. He needs a shop as much as a library.

HARRIMAN: I suppose he wants an electrical shop, too; but wouldn't that work better next the stage where students work with lights, dimmers and sound reproduction?

LEGGETT: All kinds of shops are needed for all these teaching groups. Home economics needs an electrical shop, too, though its function might be limited to teaching how to replace fuses, to spot dangerous wiring, and so on.

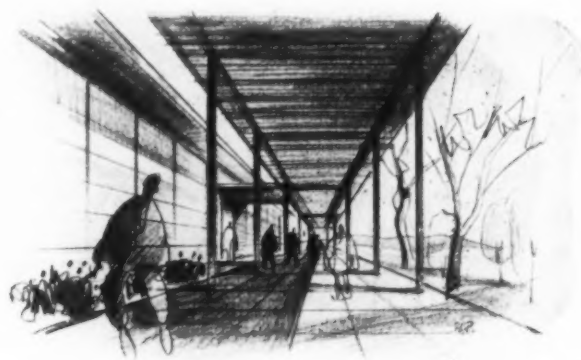
ENGELHARDT: It seems to me every student, boy and girl, should take home economics, so boys as well as girls would be better prepared to undertake domestic responsibilities. Another thing: the biggest problem most people face is buying a house. How can they judge construction? Every boy, at least, should learn about house construction.

HARRIMAN: I take it you're not talking about a course designed to produce building mechanics, but one to demonstrate values.





Left, science and home economics; and above, shop, buildings in the high school portion of Wagener 12-Year School. Classes are grouped in series of child-scaled buildings along a covered walk (sketch, right)



STENHOUSE: We use sound movies and slide films on construction at architects' meetings, and learn a lot. This sounds to me like a place to use audio-visual aids.

LEGGETT: But, again, the real experience of building — maybe not a big house, maybe something smaller, but definitely not the traditional tie rack! — that real experience does a much better job than secondhand learning.

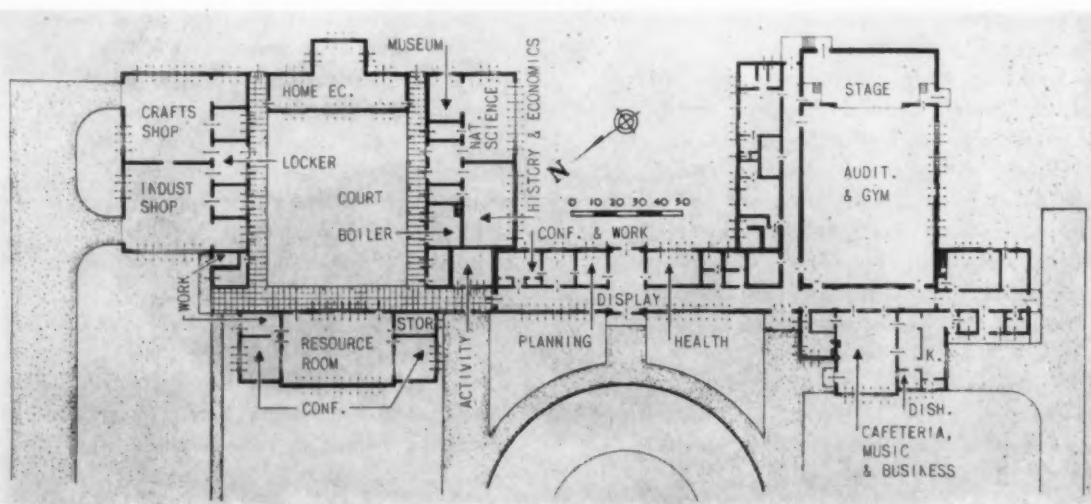
STENHOUSE: Why not, then, have students build a house, then take it down, and have the next class rebuild it, and so on?

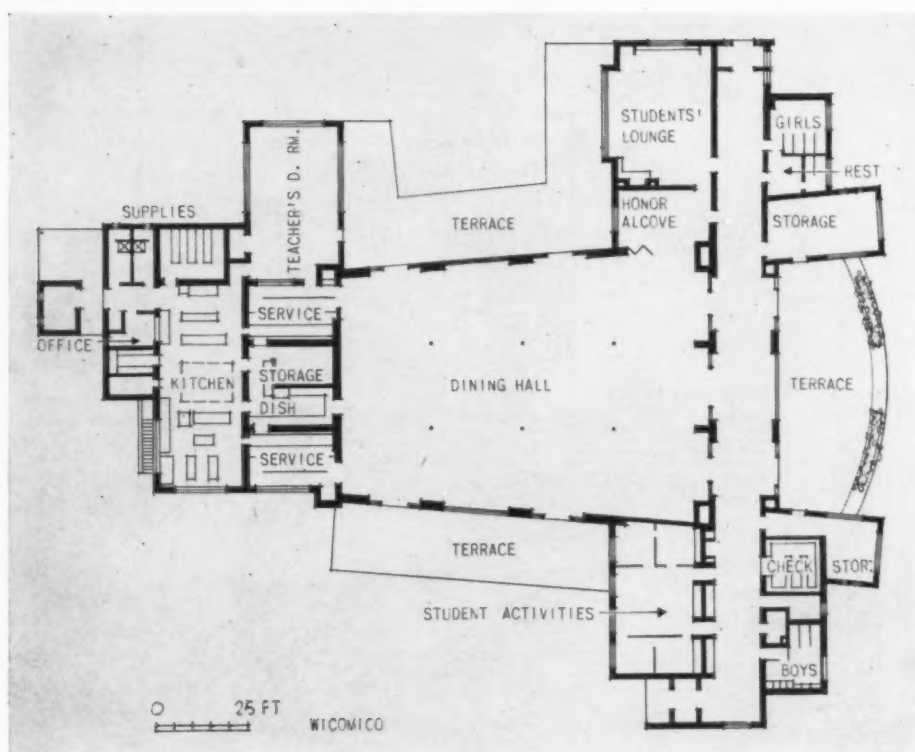
HARRIMAN: If you have limited shop facilities scattered at various school areas, just how much value does the limited facility have? Wouldn't children learn more in a complete shop with full equipment?

ENGELHARDT: Shop work is a means to an end in a science unit, where understanding of science is the aim. The means are necessary but only in a limited way. In a shop the student learns primarily the tech-

Are Shops Academic Facilities?

Below, South County High School, Dorchester County, Md., has no classrooms in the accepted sense. Students work on projects or problems in labs or shops and on field trips. One sketch shows natural science lab, museum at left, where topographic model of sea floor is being made. Other sketch: resource room has broader function than the usual library. Finney-Wolcott & Associates, Architects





◀ Left, dining hall, Senior High School, Salisbury, Md.; Malone & Williams, Architects. Note that an "Honor Alcove" opens from the main dining area and connects with student lounge. Partitions in activities room can be shifted

Right, main building at Wagener 12-Year School and sketch of library court. Juxtaposition of auditorium, music and art rooms, even the library (divided for different age-groups) make possible a close integration of subject matter

niques, and that is not education, it's merely acquiring skills.

MCLEOD: Is Myers Park going to have a separate facility for art? Where will it be located? In what connection with other subjects will it be used?

FRENCH: We've been thinking of a separate building . . .

LEGGETT: In a nice, wooded section of the site, over near the science group; the reason was principally romantic, I guess.

MCLEOD: Why not tie it into the auditorium?

ENGELHARDT: We weren't — and still aren't — quite sure how the program will develop. Let's repeat that we're glad that not all of Myers Park's buildings have been built, and that what's been done here is only a first step toward resolving what an ultimate program may be.

GARINGER: We intentionally postponed the home economics building. Our notion was eventually to have a separate building with a demonstration cottage, that might be student-built, for succeeding students to use. As time goes on, we find home-making tying in more closely with English, science, and so on. Where should we place the department?

ENGELHARDT: It seems the home arts need some science lab facilities, shop provisions and so forth just as the auditorium may. Is there an advantage in having a home arts unit that has a home environment? Why shouldn't boys have the counterpart of a shop, for instance, as it exists in their own basement or garage?

CURTIS: Integrating these activities with the whole curriculum implies close personal relationships be-

tween teachers. In my own city, Wallingford, many teachers are planning services they can render to other departments. They have to find out what others do or are capable of, and in one instance the shop teacher made a certain space available regularly to the science teacher. But when you add shop facilities to a science unit, don't you add more space, too? How much?

LYLES: Here in North Carolina we've spent several million dollars building schools, and we're planning more. Are these buildings going to be made obsolete by the changes we're discussing?

LOPEZ: Lack of perfection in school buildings needn't render them completely useless; we're trying here to find ways to improve our future performance.

CURTIS: I still don't get one thing. We're talking about a high school that becomes more vocational, and at the same time vocational schools are becoming more like general high schools. When you speak of students building a house, you're actually training journeymen.

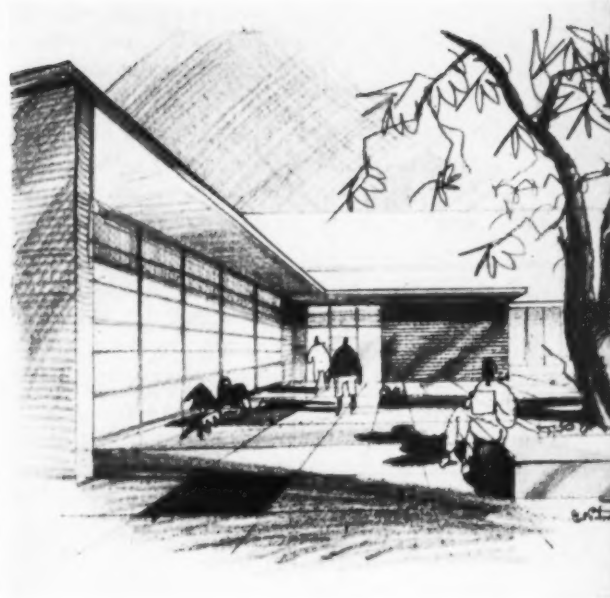
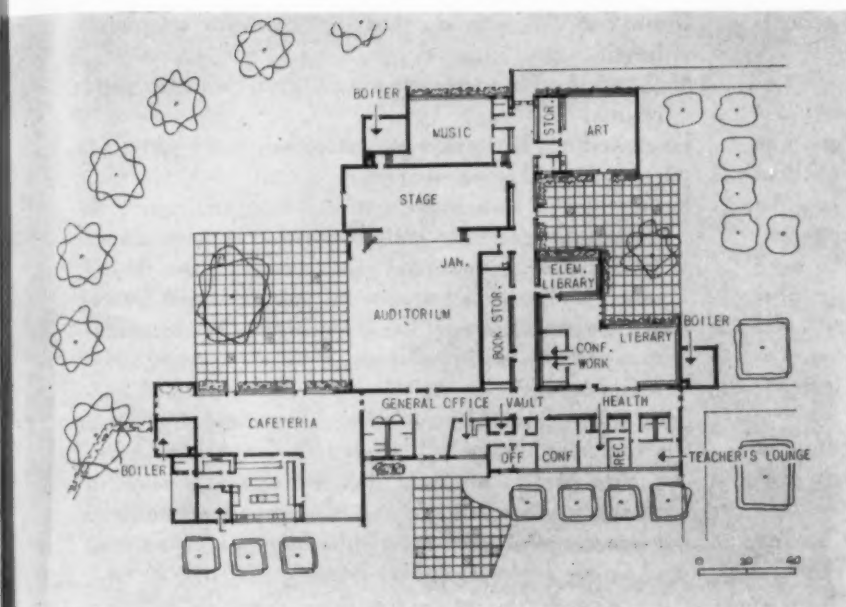
LYLES: Yes; how far should we go?

MOLITOR: This seems to be a good place to use visual education techniques.

ENGELHARDT: Why avoid the real experience? That is what helps later, in adult life.

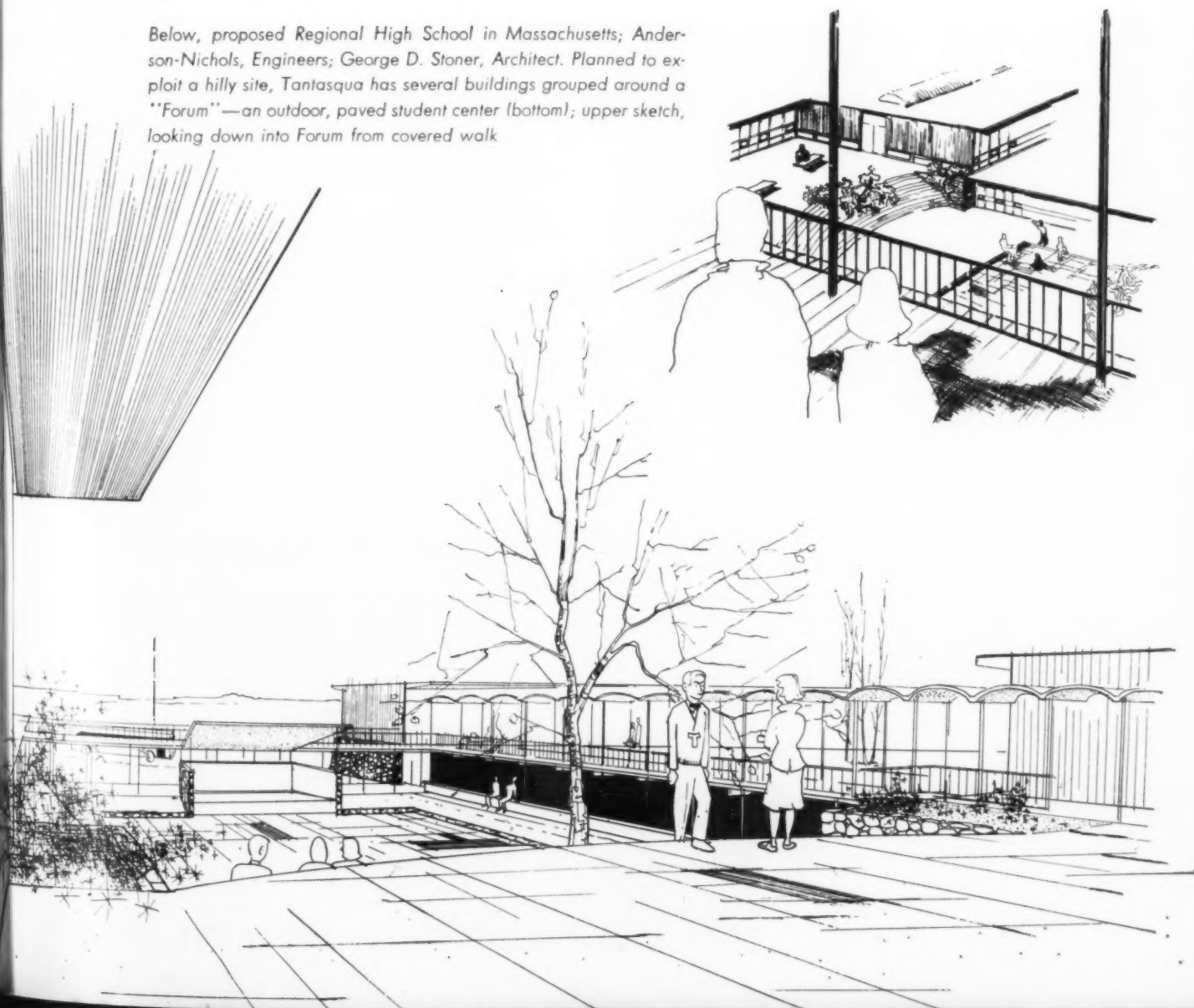
LYLES: It is better, in some cases, not to have personal experience!

CURTIS: Joking aside, if the responsibility is placed on us at the municipal level, I agree; but when we compete with other educational agencies I say no!



Remember: Students Are Social Animals!

Below, proposed Regional High School in Massachusetts; Anderson-Nichols, Engineers; George D. Stoner, Architect. Planned to exploit a hilly site, Tantasqua has several buildings grouped around a "Forum"—an outdoor, paved student center (bottom); upper sketch, looking down into Forum from covered walk



STENHOUSE: Just to add to things, why don't schools teach children something about architecture?

Social Activities

ENGELHARDT: The student center at Myers Park was originally conceived as a way of focussing the school on the student and his socialization processes. We were trying to get as far from subject-matter teaching as possible. And here's another aspect: you have that one large room, the cafeteria, where three or four hundred boys and girls eat at once; meals and meal-times can be turned to the purposes of education; can't we find a better way to, say, increase their social value?

I noticed that the largest group in the cafeteria was about eight, both boys and girls; usually it was four to six. Would the cafeteria work better as a means of learning social behavior if it were broken up into smaller units?

LOPEZ: Like booths in a restaurant?

STENHOUSE: The students walk around from group to group now. I think they like the noise and confusion of the large cafeteria, particularly after they get out of classrooms.

Joseph W. Molitor



ENGELHARDT: But if it gets too noisy they just gorge and go, fast as they can. How about breaking the room up into smaller units? Is there any occasion, say, when your Student Council would like to meet for lunch? Or some other group, maybe a number who were working on a school project, or even some not interested, for the time being, in school matters?

FRENCH: Our Student Council does meet at lunch; that's the only time they can. They use the teachers' dining room — which, by the way, we have to use for teaching space, but it's empty at that hour.

ENGELHARDT: Would having more small areas encourage that practice? Groups like the Council might benefit from having somewhat isolated eating areas, maybe divided by partitions — which might, of course, be removable.

LEGGETT: Instead of using actual partitions, why not something like acoustically treated alcoves, not closed off entirely from a general space?

HARRIMAN: We can do that; we do, with telephone booths.

MCLEOD: And in manufacturing plants, too, with good results.

ENGELHARDT: Perhaps a psychological, not a physical, separation is what we need.

LEGGETT: I'm sure architects can find an answer to that problem, but to me the question is, how can we increase the educational significance of the dining hour? By providing spaces for small groups? Or requiring an entire shift to eat *en masse*? Or a combination of both, with some smaller units opening off a major space?

FRENCH: In part the answer depends on how large these groups are. Possibly a student becomes a more intimate part of a group gathered around a table in a large dining hall. To me it is important to have a space uncluttered, not tight or cramped. The mess of eating might be undesirable.

ENGELHARDT: At that age, children are several different kinds of social animal. The student wants at times to be part of a large group, at others, of only a small clique; at times he's solitary, even anti-social. Quite often he's all three at once.

CURTIS: Referring to cafeteria layout, can several reasonably sized dining rooms be grouped around one kitchen? Could you divide a shift of, say, 400 units into four groups of 100 each?

GARINGER: One outside wall of the kitchen has to be reserved for access for service.

LEGGETT: We planned something like that for Myers Park, didn't we, Jim? Around the kitchen there's the present dining hall on one side, service on another, teachers' dining on a third, and we expect to add another dining hall on the fourth wall.

ENGELHARDT: Perhaps even that is not the educational ideal. Would we make better educational use of the dining hour by transporting food on steam carts from a central kitchen to smaller dining units, possibly at some distance away?

MCLEOD: That's done in hospitals.

CURTIS: It might be desirable to have diversified eating facilities, a variety of spaces for different kinds and sizes of groups.

ENGELHARDT: There would be an administrative problem: these facilities would be so much in demand by various groups that you'd have to schedule them tightly.

FRENCH: With the few facilities we have now, we have exactly that problem. More might reduce the difficulty, or then again, aggravate it.

ENGELHARDT: Elmer (Garinger), aren't there times when you'd like to have all the students intermingle? Should groups and subgroups work in comparative isolation all the time?

GARINGER: You aren't reversing yourself?

ENGELHARDT: No, just speculating. Maybe a group in the cafeteria shouldn't be the same group that works as a unit in a class.

GARINGER: At Myers Park we had intended to use the cafeteria terrace for outdoor eating. But our health department has ruled against that, unless the terrace is screened.

LEGGETT: This cafeteria business is one of a series of problems that we can reasonably expect schools to concentrate on in the future. All of them relate to a concern about the children themselves, as people and as individuals. It's important that they have a chance to relax and mingle with the other students between classes. Student officers are important. We can't neglect this phase any longer in planning either programs or buildings. At Myers Park there is a student center, a dominant in the composition, for that very reason. What can the school building do to reinforce the individual, human student? Again at Myers Park, we believe the distance between buildings is an advantage; it affords a chance to breathe fresh air, unsupervised. What other things can we do?

Something is stirring at Myers Park. It's evident in the attitude of the students, more readily with some than with others.

LOPEZ: Yes, we talked to a number of students who had a pride in their school and its buildings. Quite an *esprit* has grown.

GARINGER: We think the students have come to identify themselves with their whole campus.

CURTIS: You fellows saw me taking a lot of pictures of the student center there. In my experience, it's hard to get a school board member, let alone the average layman, to appreciate the importance of non-teaching spaces. I don't think I'll ever convince my people of it until they see it personally. Things like the lounge, the milk bar, terraces and walls there have real educational significance. Even many educators don't recognize that. How common do you think such provisions are going to be?

ENGELHARDT: We're working on more and more of them.

LEGGETT: And trying to make them out-going, not in-growing; to stimulate the imaginations of —

CURTIS: That's important, too. All the way through elementary school we stimulate the child's imagination. When we get to secondary school all that stops short.

Campus Plan, Buildings and Services

CURTIS: Was any premium paid at Myers Park for the campus plan?

LEGGETT: I don't think so; nor do I think there was on the average at other campus schools. (There followed a discussion of details at Myers Park: would a single, large building be cheaper, or would it cost more to put in expansion joints than to build several separate buildings? Ans.: probably more for expansion joints. Daylighting vs. artificial lighting? Ans.: nothing conclusive, but a question whether variation in light intensity might not be beneficial. European insistence on low lighting levels cited. Which buildings at Myers Park seemed most successful architecturally? Ans.: the newest — science buildings, particularly the natural sciences building.)

HARRIMAN: What was the cost of the buildings per square foot?

LEGGETT: \$9.04 per sq ft for the language arts or library unit and the student center building. If you add the entire cost of the central boiler plant, this rises to \$10.40; but only a portion of the boiler cost can be added fairly; the boiler house will serve the entire eventual campus. Pro-rating the heating system cost brings the figure to \$9.77.

LOPEZ: We saw that Myers Park has a coal-fired central heating plant, high pressure, with reducers or converters at each building. Is that ideal? Doesn't it cost a lot?

LEGGETT: Coal is the cheapest fuel here, and its use almost demands a central plant.

CURTIS: Whatever the fuel, would it ever be cheaper to have a lot of separate boiler rooms?

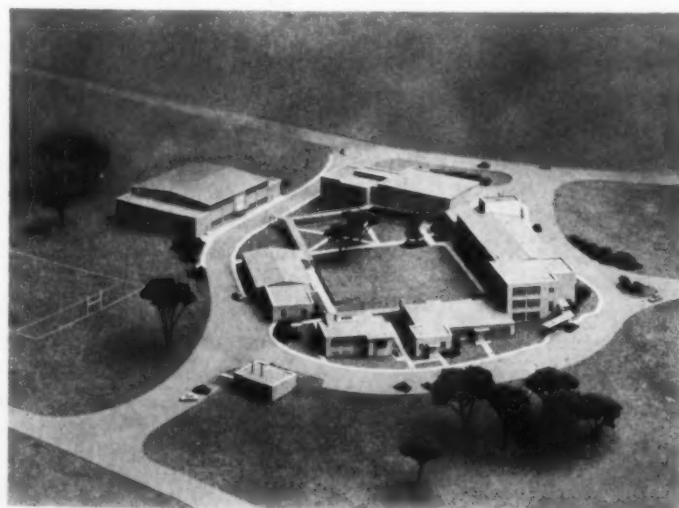
MCLEOD: Oh, yes. Maybe not one for each building; maybe one for a closely knit group of buildings.

HARRIMAN: And since you have to have a lot of janitors for a lot of buildings, it wouldn't increase your maintenance staff much.

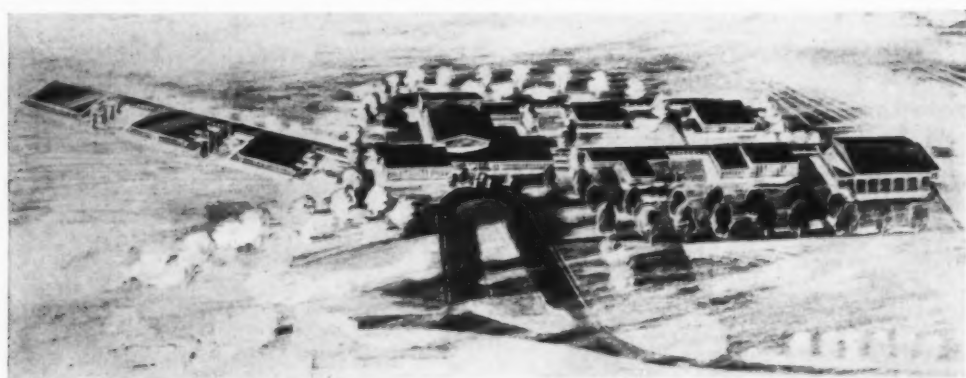
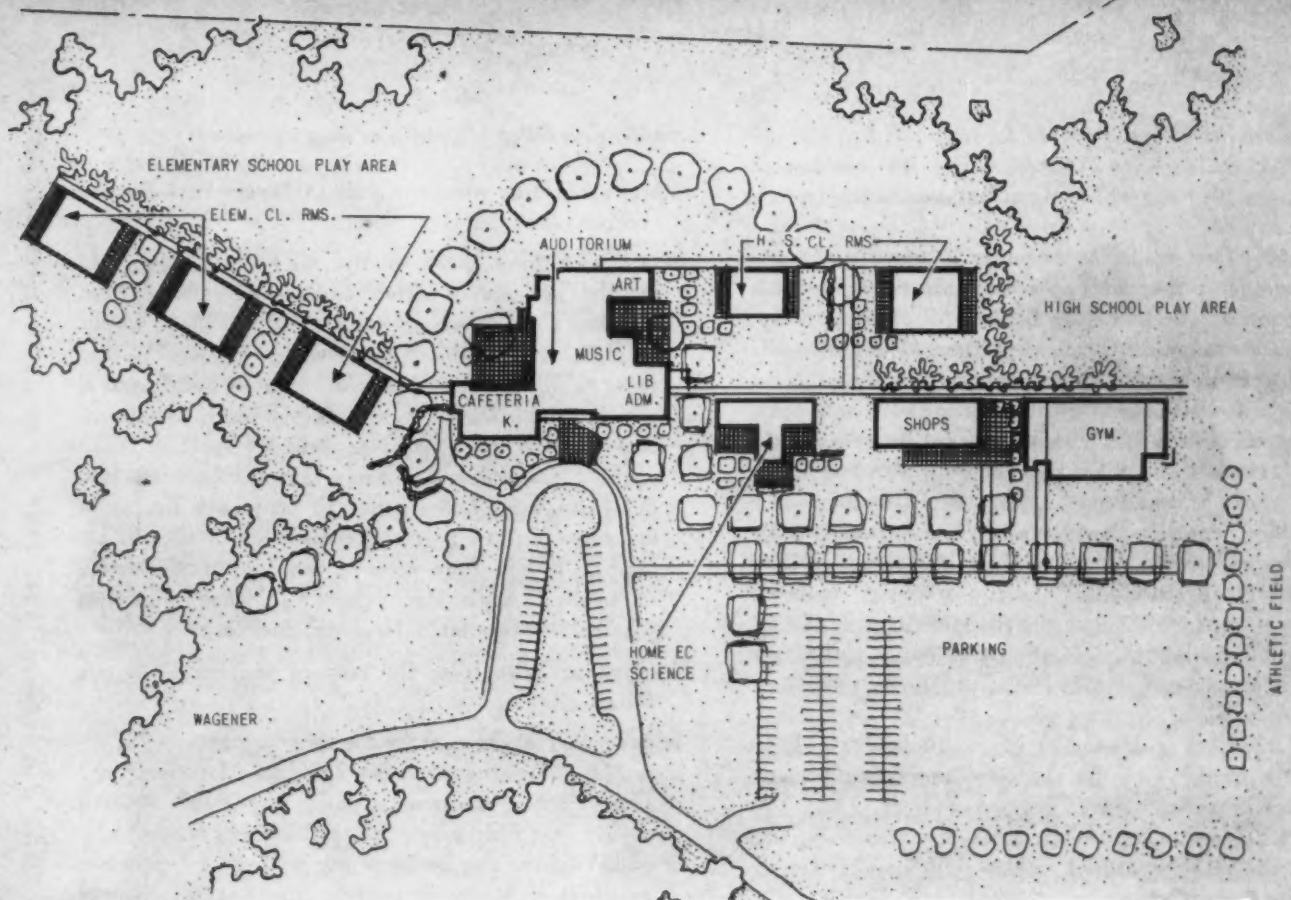
MCLEOD: Was there another way of getting to the boiler room at Myers Park, on the original site plan?

GARINGER: Yes, we had a perimeter road, but it hasn't

Hedrich-Blessing



Even when schools have more conservative curricula than the discussion suggests, campus plans have been found advantageous. Left, Clayton High School, Clayton, Mo.; William B. Ittner, Inc., Architects



Above, plot plan and air view, Wagener 12-Year School, Aiken County, South Carolina; William G. Lyles, Bissett, Carlisle & Wolff, Architects. Left portion of campus, for elementary grades, is carefully separated from secondary grades at right. Construction of a number of relatively small buildings rather than one or two large ones is expected to hold down costs. It will also afford excellent opportunities for developing a curriculum based on experience-learning

been built. The road system is not what we had planned; I think automobile traffic ought to be kept out of the campus, even for deliveries.

CURTIS: What about roads for driver education?

GARINGER: In the center of the city, at Central High School, the Police Department has designated streets for our program of driver training.

ENGELHARDT: Using a campus road might be all right for preliminary training, but the real experience, when the time comes for it, is only gained by driving in actual traffic. One thing that does bother at Myers Park is the number of cars the students own.

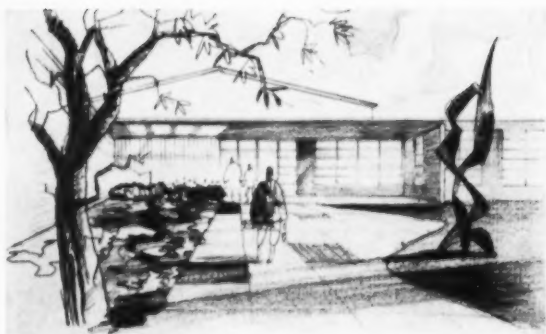
FRENCH: Yes, that's a problem.

LOPEZ: How do you communicate between buildings?

Would an inter-com or public address system help?

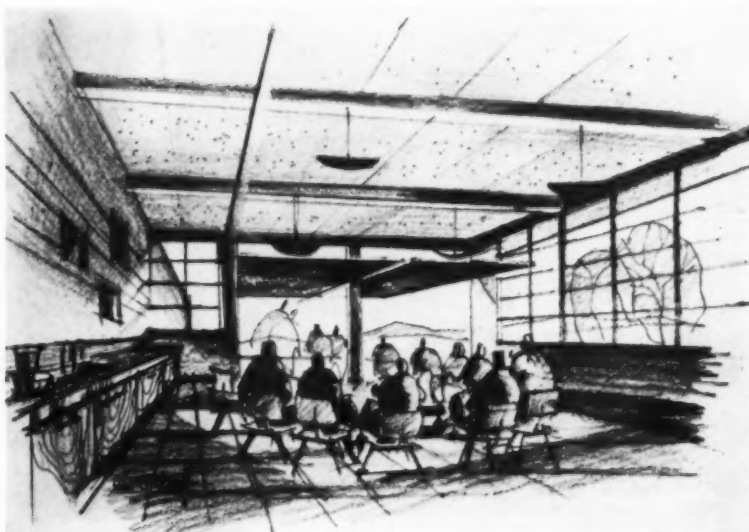
FRENCH: We use telephones, and . . .

LEGGETT: What would we use a full-fledged public ad-

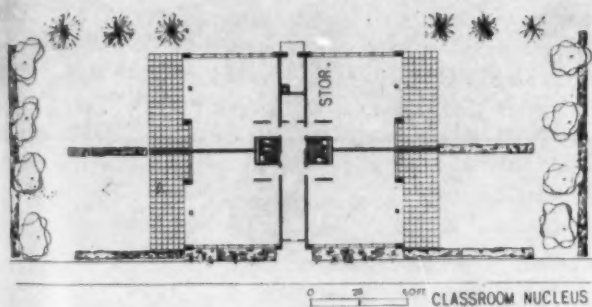


Left, entrance to main building at Wagener School, below, study for typical classroom. Note horizontally pivoted wall sections which unify indoor and outdoor classrooms

A New Kind of Learning Unit Emerges



Left, plan of classroom building, Wagener School. Program required equal indoor and outdoor area, with complete unification of the two. Each building has its own heating plant, toilet facilities, storage



dress system for? Broadcasting speeches? The telephone works for intercommunication, and the expense of an installation, etc., would be hard to justify. Of course the time may come when Myers Park might get so complex it would have to have one, so I don't think the school ought to be designed so an installation would be impossible.

HARRIMAN: What about making use of radio or TV?

ENGELHARDT: You could say there's so little on TV that's worth while, at least during school hours, that the expense, again, can't be justified. I take it you mean a central antenna, piped to various locations, and so on.

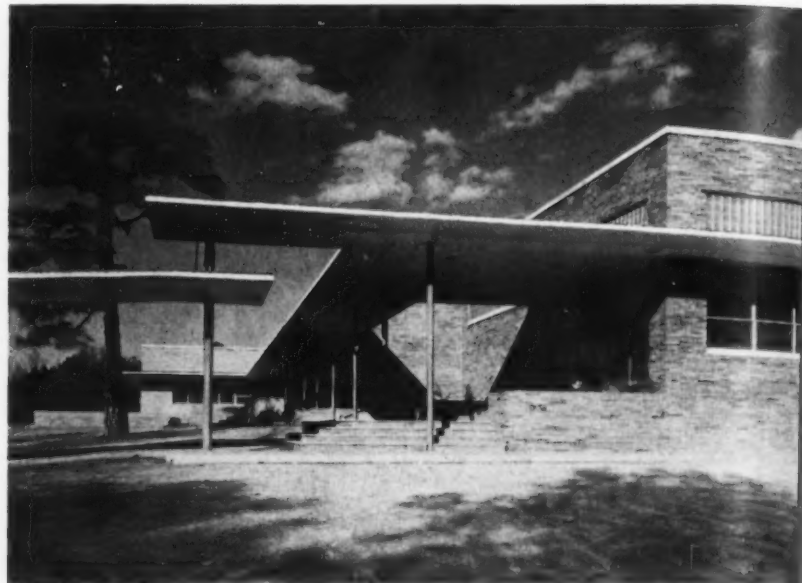
LEGGETT: It would make more sense to have a portable radio in each classroom, so it can be plugged in and tuned to whatever a class needs; the same goes for a TV set eventually.

GARINGER: In Charlotte we've been discussing establishing educational TV programs. Possibly we can achieve that by interesting wealthy, influential private citizens. But it takes a lot of money.

The Learning Unit

ENGELHARDT: There's something fundamental in all we've been discussing. Perhaps we can improve on what's done at Myers Park and elsewhere. A while ago Stan (Leggett) spoke of possibly coordinating more subject matter into larger units, to get a total approach to a project or problem rather than to each subject as a subject. How big can a learning group be and remain manageable? Can we have, say, 75 children, with three teachers? Could they successfully coordinate many aspects of learning — English, languages, arts, sciences, mathematics, for instance

A Hundred or More Students In One Group

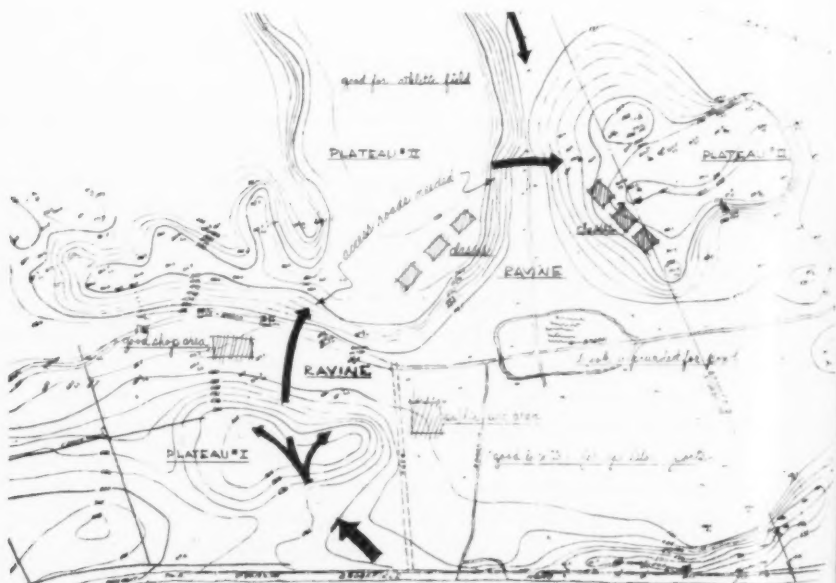


Joseph W. Molitor



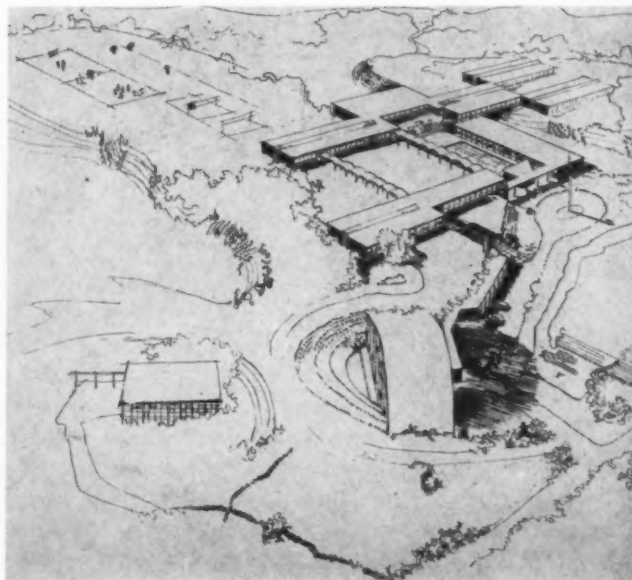
Campus at Myers Park, above and left, is to be completed as needs develop and funds become available. On air view, black square indicates gymnasium just completed. Left, top, bicycle shelters virtually empty; bottom, parking lot, mostly students' cars

Campus, proposed Regional High School, in Massachusetts; Anderson-Nichols Co., Architectural Engineers; George H. Stoner, Architect. Left and center, studies for building location; right, air view; gym-auditorium in foreground is to be built in a natural hollow to minimize construction cost. Athletic fields are to be along highway to encourage full-time use as teen-age center



9

MCLEOD: Do you propose moving the students to special places for specialized subjects?





Students, Facilities,

LEGGETT: I'd guess there would have to be four or five teachers; you'd need that many to cover the special fields; and I'd do that within the unit itself. Which means, of course, since the pupil-teacher ratio is pretty generally established at about 30 to one, you'd have 120 to 150 students per unit, not 75. But one teacher can't know everything.

MCLEOD: I've often thought we should throw away our present concept of the cubical classroom, if only so a group of children could learn under at least two or three teachers. That would help overcome the problem the inferior teacher presents — and it *is* a problem!

ENGELHARDT: That works in kindergartens now, but it might not at the age-level we're discussing.

CURTIS: I've seen it tried in two cases. We had to, because we lacked space and had to double up. In one instance, teachers with comparable ideas worked well together; results were excellent. In the other, although the teachers didn't clash they had different ideas; one came to dominate; results weren't satisfactory.

FRENCH: Last year, in seventh and eighth grades, we

arranged schedules so a math-science teacher and an English-social studies teacher shared their two sections and worked together somewhat. We didn't schedule that way this year, and the teachers have just asked me to reinstate the idea next year. They had found they complemented each other.

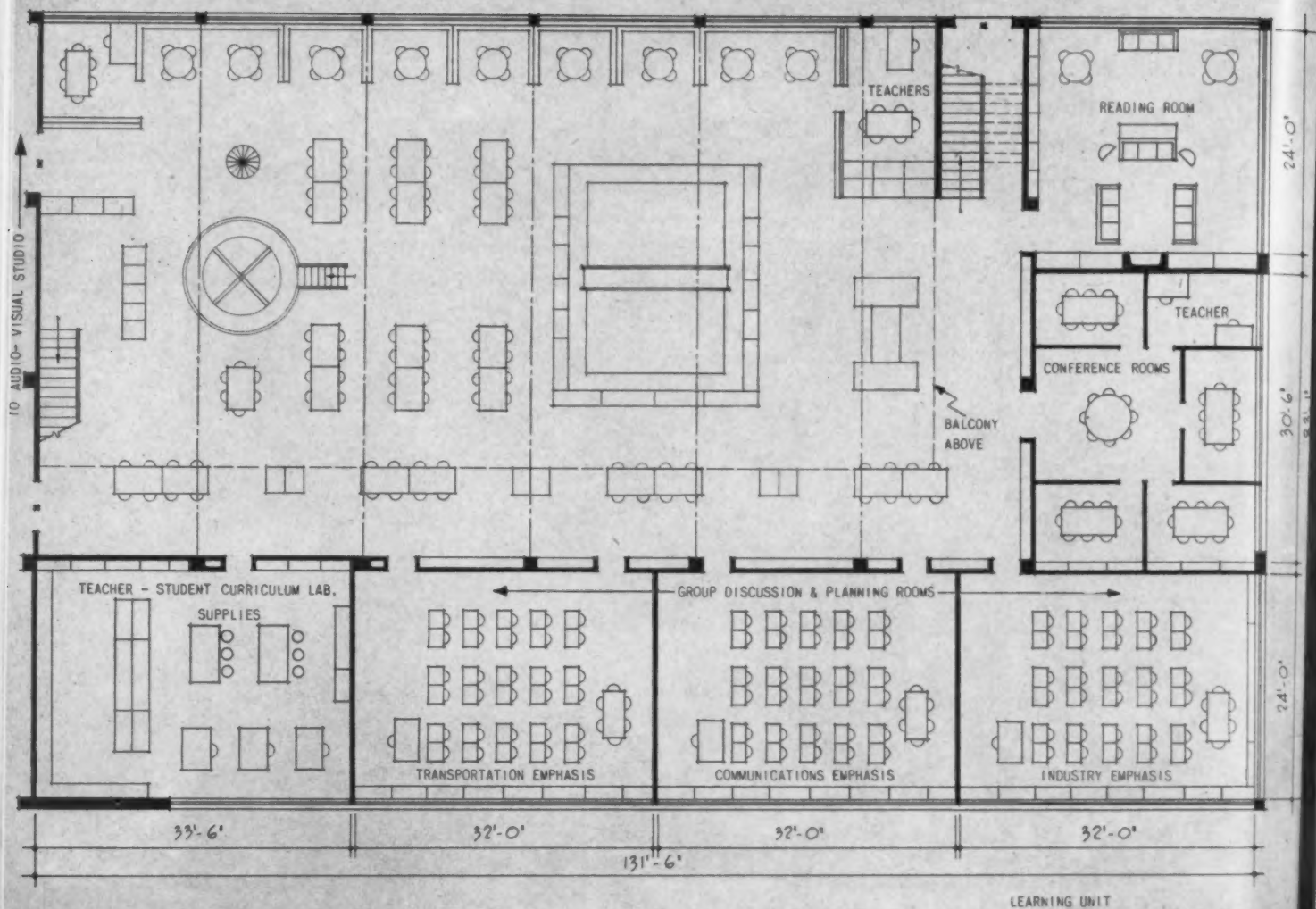
LOPEZ: But you did not have the learning unit Nick proposed.

FRENCH: No.

ENGELHARDT: Without the right kind of plant there may be too many physical handicaps; but with a plant designed just for the purpose, and with reasonably competent teachers, I think this kind of a program would really click.

CURTIS: Would the learning unit foster higher attainment just by affording more immediate opportunities? Would that arouse enthusiasms?

LEGGETT: It seems to be of great importance to have certain things in immediate proximity: the teacher, the teaching source or facility, and the student, plus the stimulation afforded by the availability of other teachers. Distant opportunities are not likely to be used.



How Far Should We Go?

Plans above show early concept of a social studies learning unit as developed by Engelhardt, Engelhardt and Leggett in cooperation with Harrison & Foulhoux, Architects. Such a unit could function in manner described in text. In large room, circular form suggests a huge globe; rectangular form, a modeling pit for topographic models, etc., perhaps with a movable bridge spanning it to facilitate work. Several teachers would be needed for the 75 to 150 students accommodated

CURTIS: I don't know that you can compare the facilities, either; schools have to differ according to their communities' needs. In my own district in Connecticut, we need more emphasis on shops than there is at Myers Park.

HARRIMAN: How can this kind of curriculum satisfy the demands for college entrance?

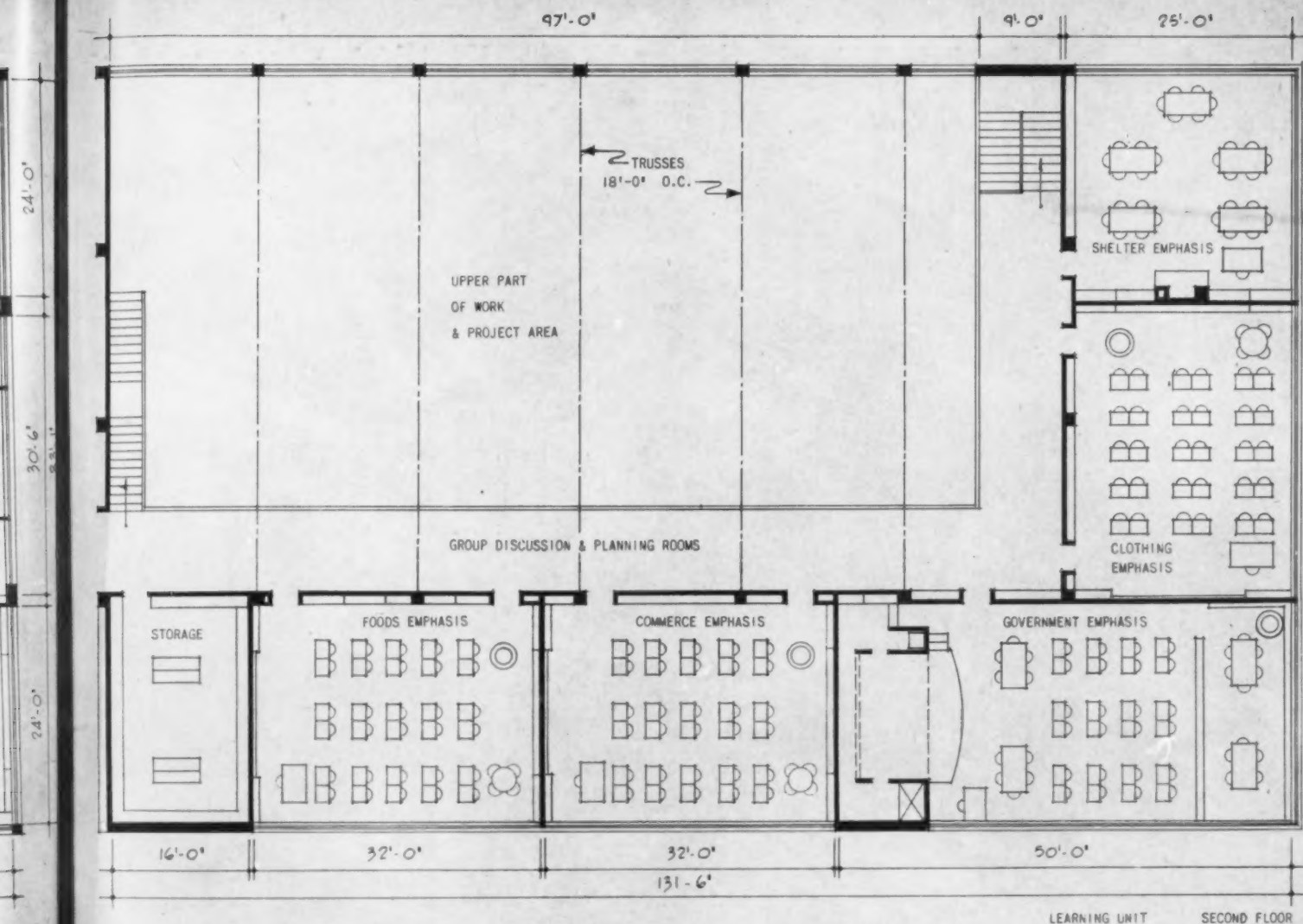
LEGGETT: That is one of the difficulties; but it is being done in many places all over the country — California and Maryland, for instance.

FRENCH: The learning unit idea seems to demand a lot of space and equipment.

ENGELHARDT: We don't know yet that it would take more space.

LOPEZ: But, for instance, adding shop equipment to each learning unit would mean duplication, wouldn't it, and added expense?

MCLEOD: Can you eliminate shop facilities elsewhere if you put them in the learning units?



LEGGETT: The only real way to justify the increased amount of equipment is to make sure it is used by a greater number of students. Our purpose is increasing the richness of opportunity, I think, beyond what standard classrooms can possibly permit.

ENGELHARDT: One class I know of was studying the surface of the moon. To make a model, they brought half the shop and art department into the classroom.

LYLES: Why wouldn't a portable shop do?

ENGELHARDT: That might work, like the portable radio; it might also work for the unit's library. Ideally, though, I'd think the special facilities ought to be right at hand.

HARRIMAN: I admit I'm a little confused.

MCLEOD: Well, not to be an obstructionist, but can the requirements be more clearly defined?

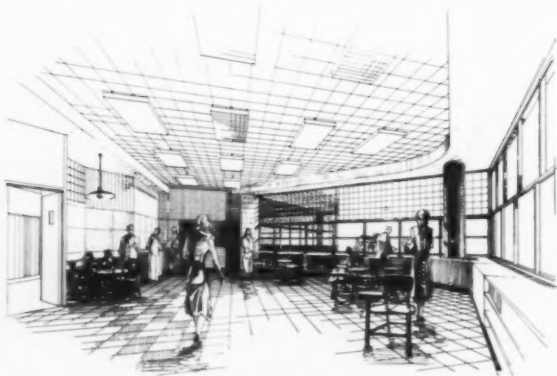
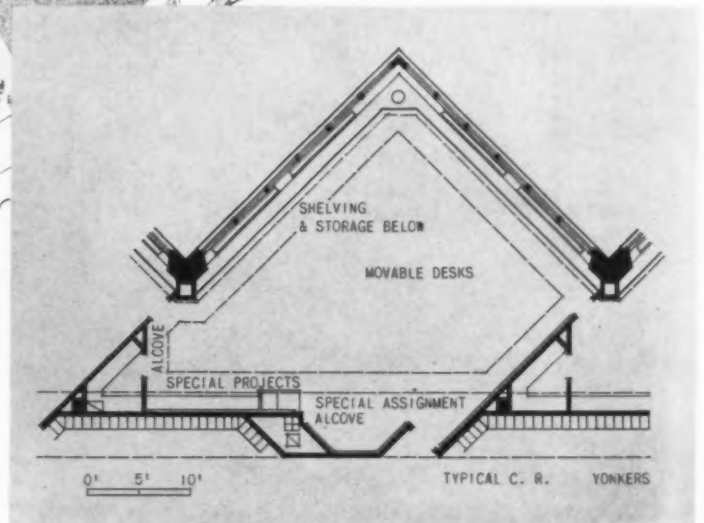
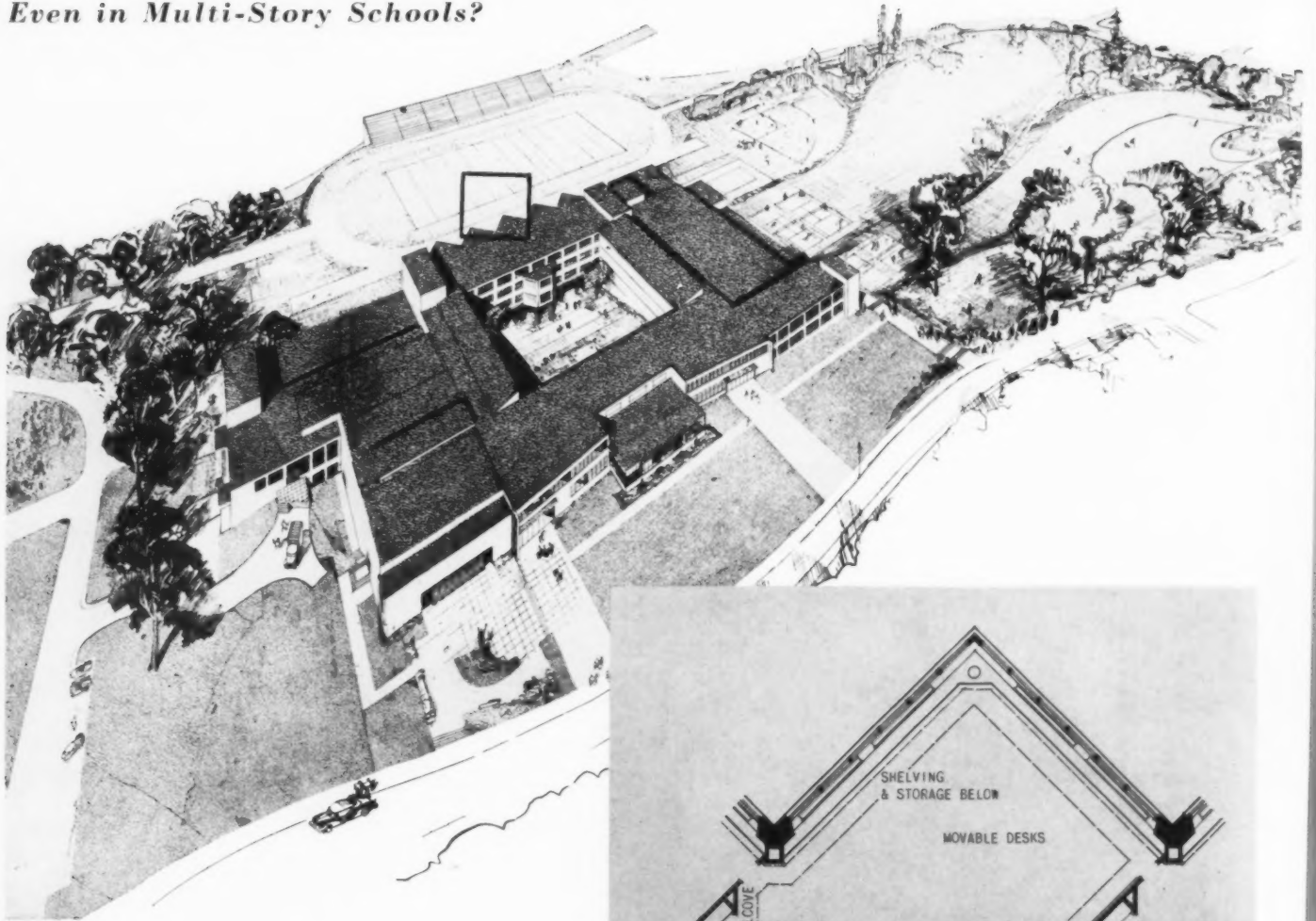
LEGGETT: What we've been discussing is the heart of the architecture.

LOPEZ: I see what he means. The program isn't completely formulated; it is a program for designing both the curriculum and the building. It's not in traditional form, but then it's not a traditional problem.

HARRIMAN: It is quite different from the conventional classroom idea.

ENGELHARDT: Consider, too, that the faculty and the community at large have a great influence on the program. It may be all settled in words, but when the words become lines on paper, the lines that constitute a school building design, the community is likely to say: "That's not what we meant at all!" That factor, rooted in recognition or familiarity, is extremely important, more so to adults than to children, I'd guess. And maybe they'll be right, those who object. At our present state of development — and I'm talking about both the kind of theory we are discussing here, and the capacities of the general public, the teaching staff and students — we have to go slowly.

Even in Multi-Story Schools?



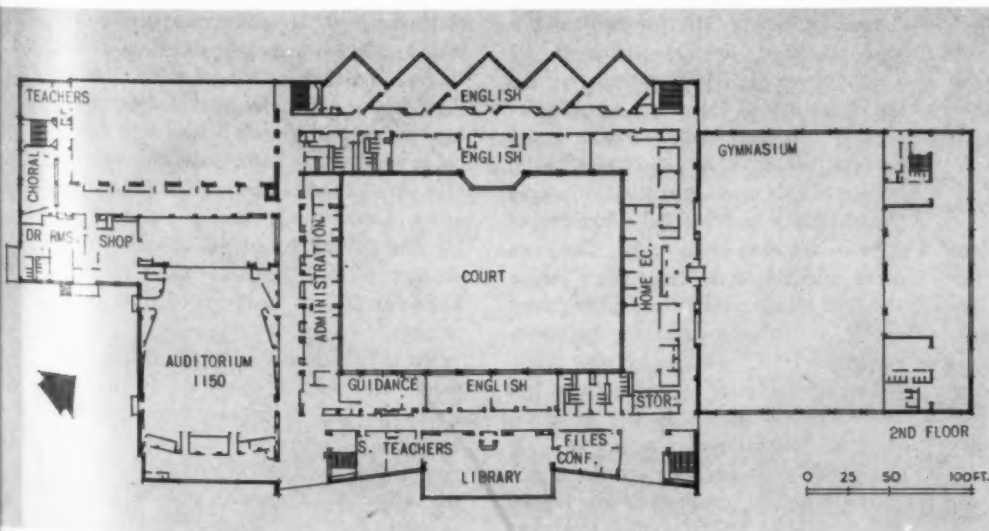
Southeast Yonkers, N. Y., Junior-Senior High School; Alfred Hopkins & Associates, Architects. Of the eventual whole shown in the air view, only the portion in the foreground is to be built now. Noteworthy are the future classrooms arranged saw-tooth fashion; These are conceived as laboratories in which numerous related activities can be undertaken

Photos at right: group in action in Charlotte, N. C. Top, inspecting outdoor science activities; next two, deliberating in hotel; bottom two, inspecting other schools in Charlotte

Joseph W. Mallor



Above, portion intended for construction now; below, upper floor plan, Southeast Yonkers Junior-Senior High School. Site slopes to rear. First floor will contain classrooms, cafeteria, gymnasium around an open court which can double as an outdoor theater; loggia opening to lower grade can become stage



Portions of this article are based on (1) extensive exposure tests and observations on houses made since 1922 by Forest Products Laboratory and (2) a survey* of some 60 exterior white paints on the market in 1950. Although the discussion of paint formulations is restricted to white paint, a large part of the article containing recommendations on preparation of surface, elimination of moisture beneath paint, frequency of repainting and application techniques applies to most colors

SELECTING DURABLE PAINTS FOR EXTERIOR WOOD

THE success of a painting job on exterior wood depends principally on the following factors:

1. Selection of a durable type paint which weathers gradually.
2. Maintenance of dry wood beneath the paint by controlling condensation and preventing rain water from getting behind the siding and trim.
3. Selection of favorable painting weather.
4. Proper preparation of the surface to receive the paint.
5. Proper application at not too frequent intervals.

The purpose of this article is (1) to provide guides for the selection of paint which will retain a good appearance for a reasonable number of years and (2) to explain the function performed by the principal ingredients of modern white paint.

Recommendations herein are based chiefly on a survey of 60 leading brands of white paint available on the market in 1950, together with information derived from paint exposure tests during the past 30 years under the supervision of F. L. Browne, Chemist, Forest Products Laboratory, Madison, Wis.

Paint Composition

The common ingredients of modern white paint for application to exterior wood are relatively few. Basically, exterior paints are a mixture of pigments, suspended in an oily liquid, called the vehicle. Pigments consist of white lead, zinc oxide, titanium dioxide and pigment extenders. Vehicles consist of raw or refined linseed oils, driers, bodied oils, and volatile thinners. By varying the amounts of these ingredients, an enormous number of paint formulas can

be produced. However, certain combinations of these ingredients have stood the test of time and are known to be durable.

It is important, in order that the painted surface be suitable for repainting, that the paint film retain its integrity and gradually weather or wear away by disintegration into fine dust-like particles (so-called "chalking") rather than by cracking, curling, or peeling.

No amount of repainting will remedy a paint coating that has cracked. On the contrary, tests show that repainting actually aggravates the condition. Overpainting, the building up of thick coatings by many applications of paint, often produces less durability than too thin a paint coating.

The Pigments

The pigments in white exterior paint serve several purposes. Some, especially white lead and zinc oxide, are chemically active; they neutralize the acid produced by aging linseed oil which otherwise would seriously reduce the durability of the paint. Others, especially titanium dioxide, have great covering power or opacity, which is the ability to hide or conceal what is behind them. Others provide bulk and resistance to abrasion at low cost. They are often referred to as "extenders" since they reduce the amount of higher-priced lead, zinc, and titanium pigments needed.

During the past 50 years there has been a great change in the pigments used in exterior white paint. In 1900 nearly all house painting was done with pure white-lead pigments in raw linseed oil. White lead is probably the most chemically active pigment and by reacting chemically to neutralize the acid decomposition products of linseed and other drying oils it enables paint films exposed to the weather to retain their

toughness and flexibility for a longer period of time. White lead weathers by mild checking and chalking so as to facilitate normal maintenance repainting without the necessity for complete removal of old paint. It also makes the paint resistant to absorption of water.

Pure white lead paint remains one of the most reliable paints for maintaining its integrity even under rather adverse conditions but it is attacked by hydrogen sulphide fumes, which turn it gray in contaminated industrial atmospheres, is usually more expensive, and becomes more easily soiled by dirt than most paints made with a mixture of lead, zinc, and titanium pigments.

By 1920 many paint manufacturers had replaced a portion of white lead with zinc oxide. A pigment also chemically active, it is not affected by hydrogen sulphide. Also it acts as a fungicide to prevent the paint from mildewing. Addition of moderate amounts of zinc oxide produced a somewhat harder paint film which collected less dirt and grime, and chalked less freely than straight white lead paints. Tests indicated that replacing too much of the white lead with zinc oxide results in a hard, nonelastic paint film which tends to become brittle with age and weathers by cracking and curling instead of by slight checking or chalking. These lead-zinc (LZ) paints have now almost disappeared from the market.

By 1930 a new pigment, titanium dioxide, had begun to appear in many white paints. Titanium dioxide is a chemically inert pigment of great whiteness and opaqueness. Up until this time white lead and zinc oxide provided all of the opacity; they were used in larger proportions than necessary for chemical activity in order to secure opaqueness and the use of "extenders" was limited, since most of the commonly used extenders are virtually transparent in lin-

* Sponsored by the Housing and Home Finance Agency. The above article is abstracted from a paper prepared by William A. Russel of the HHFA technical staff and scheduled for early publication in the HHFA publication, *Housing Research Quarterly* (No. 5).

seed oil. Titanium dioxide, on the other extreme, is so opaque that it may be diluted with two to three times its volume of transparent pigments and still be as opaque as the lead and zinc pigments. The transparent pigments used for extenders are usually finely ground silica (sand) or some compound of silica, such as magnesium silicate (talc). Since they are chemically active pigments, a considerable saving in cost of pigments is effected and the more critical lead and zinc pigments are conserved without sacrificing opacity or covering power.

Titanium dioxide and the silicates commonly used as extenders are chemically inert. Unlike the lead and zinc pigments they cannot be counted on to neutralize the acid products generated by the aging of linseed oil. When used in moderate amounts they improve the covering power of the paint and enable it to retain a clean, white appearance without sacrificing durability. It is extremely important that they be used in moderate amounts and always in combination with sufficient amounts of chemically active pigments to neutralize the acid generated by the aging of linseed oil. Otherwise the paint will usually lack durability.

By 1950 the great majority of paint manufacturers were producing titanium-lead-zinc paints for sale as their first-grade, trade-brand paints. A survey of over 60 well-known trade-brand paints in 1950 reveals that approximately 75 per cent of the brands on the market were titanium-lead-zinc (TLZ) paints. Lead-zinc (LZ) paints, on the other hand, had practically disappeared from the market and accounted for only three per cent of those surveyed. Straight white lead (L) paints accounted for approximately six per cent of those on the market. The remaining 16 per cent were the leadless, so-called fume-resistant paints, often recommended for use

around industrial areas where hydrogen sulphide blackens lead pigments. This latter class contained titanium-zinc pigments (TZ).

The Vehicle

The vehicle for exterior house paint consists principally of drying oils; oils which oxidize and dry out to form tough elastic films when exposed to the atmosphere. The most important of these is linseed oil. Other drying oils, such as soy bean oil and tung oil, are used in varnishes but seldom in exterior house paint.

Either raw linseed oil plus necessary driers or so-called boiled linseed oil, in which the driers have already been incorporated, may be used. Raw linseed oil without driers hardens too slowly. The name "boiled" linseed oil is misleading because the raw oil is not actually boiled but is only slightly heated in combination with driers, such as soluble compounds of lead, manganese, and cobalt, until the driers dissolve in the warm oil to produce a slightly thickened oil which dries more rapidly. Paints having relatively large amounts of raw or boiled linseed oil are known to the paint trade as "oil rich." They are preferred for exterior paint applied to wood, since they produce a tough elastic film. When drying oils are heated to high temperature for a considerable period of time, they become thickened in consistency and are then called "bodied oils."

In addition to the raw boiled and linseed oils, a portion of the vehicle may consist of bodied oils and resins. These require additional volatile thinners to provide workability. A moderate amount of bodied oils usually improves the application properties by making the paint flow out smoothly without leaving conspicuous brush marks. But too much bodied oil changes the paint into an enamel and makes it much more diffi-

cult to apply. When present in too great a proportion, bodied oils reduce the toughness and elasticity of the film to the point where it becomes brittle and is unable to expand and contract with the seasonal changes of the wood so that cracking and curling of the paint result.

Paints containing large amounts of bodied oils and resins are known as "oil-restricted" paints and are often advertised as "enamelized," "quick-drying" or "resin-fortified" house paints. These oil-restricted paints are midway between oil-rich paints and enamels.

Modern Paint Formulas

The formulas of the titanium-lead-zinc paints surveyed varied considerably. Formulas were averaged and the average formula is shown in Table 1.

Table 1

Average TLZ paint of 1950 (per cent by weight)	
Per cent total paint	
Total pigments.....	62.5
Per cent pigments	
White lead.....	26.2
Zinc oxide.....	28.8
Titanium dioxide.....	14.7
Extenders.....	30.3
	100.0
Per cent total paint	
Total vehicle.....	37.5
Per cent vehicle	
Raw linseed oil.....	52.0
Bodied linseed oil.....	23.0
Thinner and drier.....	25.0
	100.0



1 Durable paint will not correct this construction defect. Wood siding has rotted around improperly flashed window opening. House was painted four years before this photo was taken



2 Paint has eroded by excessive chalking causing failure. Since paint has chalked off the unheated garage (right) as well as heated house walls, improperly formulated paint is the trouble rather than condensation behind the wood

The Federal Government has prepared specifications* for the procurement of white exterior paints which are known from actual experience to have good durability:

One of these, Federal Specification TT-P-102 covers white, exterior, ready-mixed, titanium-lead-zinc paint.

Federal Specification TT-P-103 covers white, exterior, ready-mixed, titanium-zinc paint, a lead-free paint which is recommended for areas where hydrogen sulphide would cause white lead to turn gray.

Federal Specification TT-P-104 covers white, exterior, ready-mixed white lead paint.

Prior to World War II, there were only a few brands of oil-restricted paint on the market; the best brands of paint contained only a small proportion of bodied oil. Oil-restricted paints became general during the war due to a critical shortage of linseed oil. By 1948, when linseed oil began to again be in good supply, most manufacturers of good paint began to increase the unbodied oil content of their first-line paints. By 1950, some manufacturers had returned to oil-rich formulas, and most present-day, first-line paints show a trend back toward oil-rich formulas.

The balance of the vehicle is composed of thinners and driers. Volatile thinners are used in order to provide the proper consistency for easy application and to reduce the thickness of film so as to increase the rate of drying. The commonly used thinners are turpentine, which is distilled from the natural resin of pine trees, and a petroleum distillate known as "mineral spirits" which evaporates at about the same rate as turpen-

tine. Both turpentine and mineral spirits evaporate almost completely during the drying period of the paint. While turpentine was originally the favored thinner, mineral spirits are entirely satisfactory and are less expensive.

A comparison of the average formula of first-quality trade-brand titanium-lead-zinc white paints, as shown in Table 1 with Federal Specification TT-P-102, reveals that they are similar.

Formulas of paints which have been undergoing actual weathering tests at Madison, Wis., for fifteen years under various schedules of maintenance repainting were compared with the average formula. A paint which conforms approximately to the average industry formula for 1950 was found to be one of the more satisfactory of those published.

Research and experimentation in paint formulation continue, with new combinations of pigments being tried with new vehicles. Other methods of producing durable paints may be developed as our present knowledge is extended.

Priming Paint

A special priming paint is generally recommended by manufacturers for the first coat on new wood or where well-weathered old paint is to be repainted. It is important that the primer and the finish coats be compatible. A primer produced by one manufacturer should ordinarily not be used with the finish paint of a different manufacturer, since formulas may be different and the oils in the two paints may react adversely and cause poor adhesion of the finish coats to the primer. Zinc-free primers are usually preferred except for fume-resistant paint because their adhesion to the wood is usually better.

When it is impossible to get a recommended primer, a substitute primer can be made by adding one pint of linseed oil to one gallon of the finish coat paint in order to compensate for the oil which will be absorbed by the wood. It is also customary to slightly thin such a primer with not more than one pint of thinner per gallon to increase workability and penetration into the wood surface. Either turpentine or mineral spirits may be used for thinner.

Where fume-resistant titanium-zinc paint is to be applied, a lead-free primer is made by adding one pint of linseed oil to a gallon of the finish coat paint and up to one pint of turpentine or mineral spirits to increase workability and penetration into the wood surface. A primer for use with straight white lead paint is also made by adding one pint of linseed oil to a gallon of the finish coat paint.

Why Paint Fails

The mere selection of a durable type of paint will not insure a satisfactory or durable paint job. Even the best paint will not be durable where precautions are not taken to keep water from getting behind it. Fig. 1 shows wood badly rotted out around a window opening due to omission of flashing over the opening. A durable paint was applied to this house four years before the photograph was taken and is still sound even on the boards that have rotted.

If the paint develops water-filled blisters during the spring thawing season after a severe winter, the lack of durability may be due to condensation. Where such is the case, no amount of repainting even with the most durable type of paint will remedy the situation. The cause of the moisture could have been prevented by applying a continuous vapor barrier on the interior face of

*For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price 10 cents.

Below: note cracking and peeling on both the heated wall of the house and also on the unheated porch gable, indicating that a short-lived paint was applied. The house was repainted about 18 months before the picture was taken



3



4

Left and below: effect of severe condensation on exterior paint. Wall (left) is pock-marked with bare spots where blisters have broken and paint has peeled (see closeup of blisters below)



5

the exterior walls or by elimination of excessive moisture in the basement or crawl space. Blistering due to condensation is usually most pronounced on the cold north wall of the house and leaves the wall pockmarked with bare spots which may be round, oval, or elongated in the direction of the grain as shown in Fig. 4. Where blistering is due to condensation, it usually occurs only on the exterior walls of heated rooms, seldom on unheated garages or open porches.

Cracking, scaling and peeling, or excessive chalking of the paint with no evidence of blistering, indicates that an improperly formulated nondurable paint has been used. It is usually more pronounced on the south side of the house where it is subjected to the direct rays of the sun and occurs equally on unheated and heated portions of the house indicating that it is not due to condensation.

Fig. 2 shows a home on which paint is chalking badly on both the house and the unheated garage after a short service life. The indications are that improperly formulated paints have been used of the type known to the trade as "painters' lines" which are manufactured down to a price in order to meet competition rather than up to a durable standard of quality.

Fig. 3 illustrates cracking and peeling on both the heated wall and the unheated porch gable approximately 18 months after the paint was applied.

It is, of course, sometimes difficult to determine whether lack of durability is due to improperly formulated paint or excessive condensation or a combination of both. When the lack of durability has been identified as improperly formulated paint, it is necessary to completely remove the old paint and start over again, or the repaint job usually will not be durable.

Building up thick coatings of paint by frequent repainting usually only aggravates the cracking and peeling, even when good paint is used, and may even result in blistering as shown in Fig. 6. Where early removal of a cracked and peeling paint job is too difficult, it is usually better practice to endure the unsightly appearance until its removal becomes easier. Repainting should not be necessary more frequently than four years in southern climates, or six or more years in northern climates where sunlight is less intense. Fig. 8 shows clearly the effect of too frequent repainting.

Weather Conditions

The surface of the wood should be dry. Finish lumber or siding should preferably be kiln dried. If the lumber or finish has become wet at least one week of dry sunny weather should precede the painting. It is best not to apply paint in cold, foggy or damp weather. The surface should be free of dew or frost and painting should not be done when the temperature is below 50° F. Summer or early fall, when the wood is thoroughly dry, is the preferable time to repaint.

Preparation of New Wood Surface

All pitch should be scraped or burned from knots and these places should be scrubbed with turpentine prior to painting. To prevent paint from peeling or being discolored over knots, these are often spot primed a day or two in advance of applying the first or priming coat of paint. Shellac and aluminum paints have been used for sealing knots but neither has proven entirely satisfactory. A new synthetic resin base knot sealer, known as formula WP578, was developed a few years ago for sealing knots in Western pines and firs, and

tests to date indicate it to be effective. The formula for this knot sealer is shown below. It is produced and recommended by a number of paint manufacturers. Knots should be sealed before the priming paint is applied.

WP578 Knot Sealer	Per cent by weight
Phenol-aldehyde resin spirit varnish	33 $\frac{1}{3}$
Polyvinyl butyral resin	3 $\frac{1}{3}$
Denatured alcohol	63 $\frac{1}{3}$
	100

Drying Time Between Coats

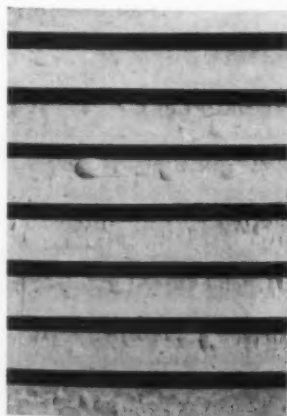
In clear warm weather, two or three days is sufficient drying time between coats. A longer time is required in cold or damp weather. Drying time should not be unduly long between coats, however, seldom more than two weeks. Unduly long drying time between coats can be as harmful as not allowing enough drying time.

Repainting

The procedure for repainting depends on the condition of the old paint. Where the paint is cracked and peeling, or where heavy coatings have been built up by previous repainting and have checked badly, it is recommended that all the old paint be removed either by burning it off with a torch or by the use of paint remover. The recommended procedure for repainting is then the same as that given above for new wood.

Where the old paint has weathered by chalking off, all loose paint should be removed by wire brushing or scraping.

6



Left: siding of this 25-year-old house has been painted so frequently that an excessively thick coating has been built up, as evidenced by cross-grained cracking. Blisters also formed with last coat and were found to be caused by chemical attack of new paint on old and not by condensation. Right and below: excessive checking due to overpainting is clearly demonstrated



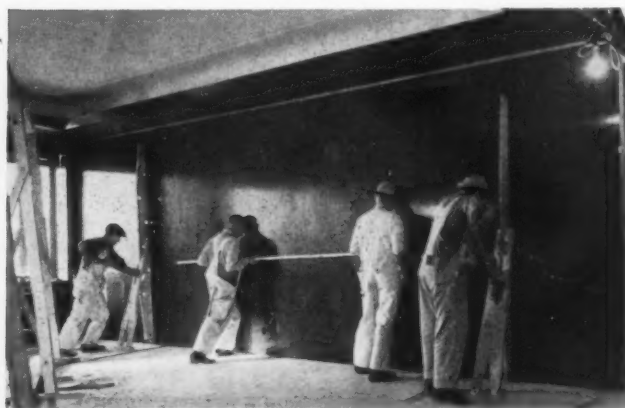
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7



Above: prefabricated paneling is joined by splines and bolts; hooks on the panels match complementary hooks on wood strips which have been fastened to the rough block walls. Below: all paneling is jacked up until hooks inter-lock. Screws at the base and top secure panels to walls



COURTHOUSE WALLS, FURNITURE PREFABRICATED IN FACTORY

*District of Columbia Courthouse, Washington, D. C.
Justement, Elam and Darby, Architects*

UPWARDS of one million separate pieces of wood were prefabricated and prefinished under factory controlled conditions for the wood paneled walls and furnishings of the new \$18 million District of Columbia Courthouse.

All told, the Globe-Wernicke Co. of Cincinnati prefabricated furnishings and interiors for 21 courtrooms, 33 judges' chambers, six libraries, four hearing rooms and numerous rooms of smaller size. Besides the wall paneling the project included spectator benches, judges' rostrums, jury boxes, witness stands and clerks' desks and library furnishings.

Advantages of prefabricating the job according to Globe-Wernicke included (1) skilled craftsmen; (2) experienced supervision; (3) planned production line for greatest efficiency; (4) ideal working

AIRCRAFT FACTORY SPANNED BY EXPOSED STEEL TRUSSES

Fairchild Aircraft Division, Hagerstown, Md. Fordyce and Hamby, Architects

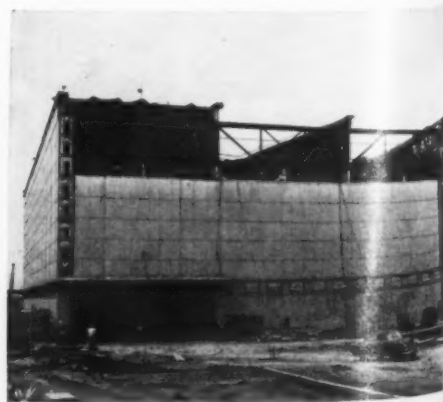
AS PART of a huge expansion program to provide additional facilities for the production of Flying Boxcars for the Air Force, Fairchild Aircraft has recently built a new production bay 200 ft wide by 765 ft long which features welded steel bowstring trusses with their top chords extended above the roof level. With this construction, which looks somewhat like a series of steel bridges, the whole production area is free of columns and there is less space to heat without any decrease in working

area. Welding was reported to have saved 15 per cent in the amount of steel needed.

An interesting sidelight was the erection process used to connect this new manufacturing structure with an existing one. The existing building was roofed by a series of saw-toothed skylights and it was desired to replace the saw-tooth trusses in groups of three by single trusses at the point where the bowstring trusses join the existing building.

The conventional method would have

been to use shoring placed on the floor to remove the saw-tooth trusses and install the new ones, but this would have taken up considerable manufacturing space and seriously restricted crane travel. Instead, so-called shoring trusses were installed next to the saw-tooth trusses, the saw-tooth trusses were removed and replaced by the longer ones, and then the intermediate columns were taken down. The "shoring trusses" remain in the structure to support the saw-tooth roof and the crane beams.





All furniture was precast, prefabricated, bolted together and then knocked down for shipment to Washington, D. C. by truck

conditions; (5) close temperature control.

Each item of furniture was produced in sections from standard specifications, assembled in Cincinnati for final inspection, then knocked down with pieces properly labeled and shipped by truck to Washington for reassembly.

Upon delivery in Washington, sections of the wall were bolted together after they were assembled face-down on the floors of the respective rooms. Then the wall was jacked into place and hung on specially designed hooks which hold it firmly in place. The result is perfectly matched wood without visible joints.

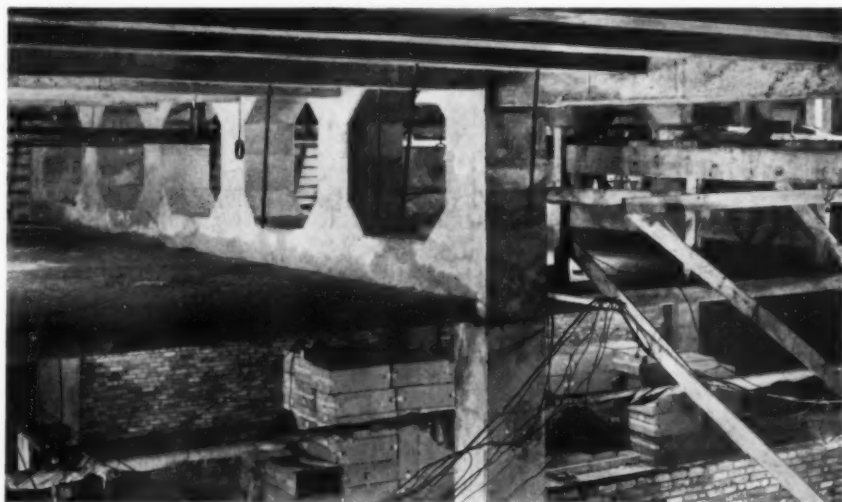
VIERENDEEL GIRDERS IN BOTTLING PLANT SUPPORT BOTH CEILING AND FLOOR

John Labatt Ltd., London, Ontario

Architects, Harley, Ellington and Day, Inc.

Associated Architects, John M. Watt & Associates

Structural Engineers, C. C. Parker & Associates



Trusses are spaced 22 ft on center. Span is 38 ft overall; depth, 8 ft 5 in. overall

REINFORCED concrete Vierendeel trusses were chosen to span the cellars of the Labatt Bottling Plant primarily as a result of the recent structural steel shortage in Canada. In order to avoid delay, reinforced concrete was used up to and including the first floor. Final design was governed by the following architectural and mechanical requirements:

(a) An unobstructed span of 36 ft-9 in. center to center of columns in the cellars.

(b) A heavy, insulated ceiling requiring support at a height of 13 ft-3½ in. above the cellar floor.

(c) A heavy first floor carrying a live load of 350 psf approximately 9 ft above the ceiling.

(d) A multiplicity of air conditioning and heating ducts, plumbing and process piping running in all directions between ceiling and floor.

(e) Exact size and location of ductwork and piping were not available to the structural engineer at the time design of the floor system was under way, but it was axiomatic that these services should be readily accessible for maintenance; the process piping, in particu-

lar, will be subject to possible rearrangement.

This last requirement made impractical the use of a deep concrete girder, sleeved for suitable openings. The span, the loads to be carried, and the necessity for free openings through the supporting member, dictated the use of a truss of some sort, preferably one in which diagonals would be of a minimum size, or, better yet, eliminated entirely. Use of a Vierendeel truss, therefore, was the logical solution to the problem.

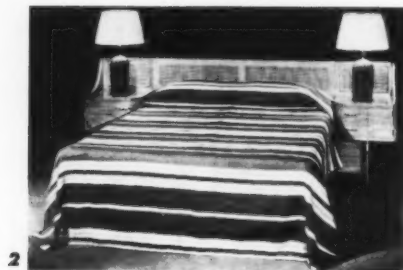
Reinforcing in the truss, particularly in the bottom chord where tension exists, is quite heavy and in fabrication it was necessary to butt-weld, rather than lap, the bars. Heavy shear reinforcing is also required in the end and first interior vertical members. Verticals are haunched to meet the chords at a 45 degree angle.

This type of truss was conceived by Professor Arthur Vierendeel about 1890 in Belgium, so the truss itself is not new.

While this type of construction in reinforced concrete does not normally offer a great deal in economy or ease of construction, here the Vierendeel truss was the only satisfactory solution.



Aerial view shows all camel-back trusses in place for the east factory extension; two trusses are on the ground for the north extension (truss being erected above). Photo left shows long truss replacing saw-tooth trusses



HOME FURNISHINGS MARKET UNVEILS NEW DESIGNS



Chicago's Merchandise Mart was the center of much activity during the annual winter home furnishings market, held Jan. 5th through 16th. Evident among the 1250 exhibits were influences from many foreign countries, including Japan, Italy, the Scandinavian countries and others. The trend this year was toward a blending of traditional and modern — resulting in softer, more graceful lines. In many cases, wood finishes were darker, contrasting to the current popular light background colors, and also to the very bleached wood finishes. Evident, also, was a reappearance of walnut and mahogany. New in the plastics field were dining table tops and chairs made of molded "Fiberglas," used with legs and bases of wrought iron.

A few of the items introduced at the market are shown on this page. Below is a key to the manufacturers.

1 Love seat, Birchcraft Casual Modern collection; T. Baumritter Co., Inc., 171 Madison Ave., New York, N. Y. 2 Woven cane headboard bed, "Sequence" collection; The Weiman Co., Rockford, Ill. 3 Woven rattan combined with wrought iron and glass; Ficks Reed Co., Cincinnati, Ohio. 4 Contemporary desk by Umanoff, walnut or birch; The Elton Co., 230 Fifth Ave., New York, N. Y. 5 "Double Triangles," hand-printed upholstery fabric with matching wallpaper by Alexander Girard; Herman Miller Furniture Co., 1 Park Ave., New York, N. Y. 6 Desk swivel chair by Umanoff, walnut or birch; The Elton Co., 230 Fifth Ave., New York, N. Y. 7 "Lines," another correlated fabric by Girard; Herman Miller Furniture Co., 1 Park Ave., New York, N. Y. 8 Edward Wormley designed sectional sofa; Dunbar Furniture Corp., Berne, Ind. 9 Buffet, Birchcraft Casual Modern collection; T. Baumritter Co., Inc., 171 Madison Ave., New York, N. Y. 10 "Clect" andirons by George Nelson; Richards Morgenthau Co., 225 Fifth Ave., New York, N. Y. 11 Black or white plastic tops on wrought iron or brass-finished legs; Richards Morgenthau Co. 12 Smaller scaled "bubble" lamps by George Nelson; Richards Morgenthau Co. 13 Coffee table by Tempestini, marble and wrought iron with wicker shelf; John B. Salterini Co., 510 E. 72nd St., New York, N. Y. 14 Grecian Key styling in Armstrong's Quaker Floor Covering; Armstrong Cork Co., Lancaster, Pa.

PRODUCTS for Better Building

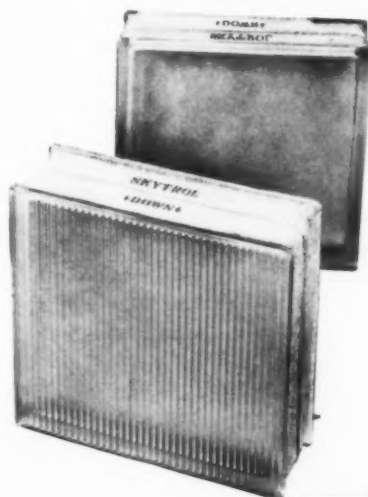
A NEW GLASS BLOCK IS DEVELOPED FOR SKYLIGHTS

Skytrol, a new system for constructing skylights with a specially developed partial-vacuum hollow glass block has been announced by the Pittsburgh Corning Corporation. On the basis of successful designs and installations by European architects of skylights using both ordinary glass block and standard wall block, the manufacturer set about developing a new 12 in. block especially designed for such applications. This block had to be planned to meet the severe daylighting conditions encountered in roof lighting and had to have an insulating value which would relieve the condensation problem and permit effective temperature control within the building.

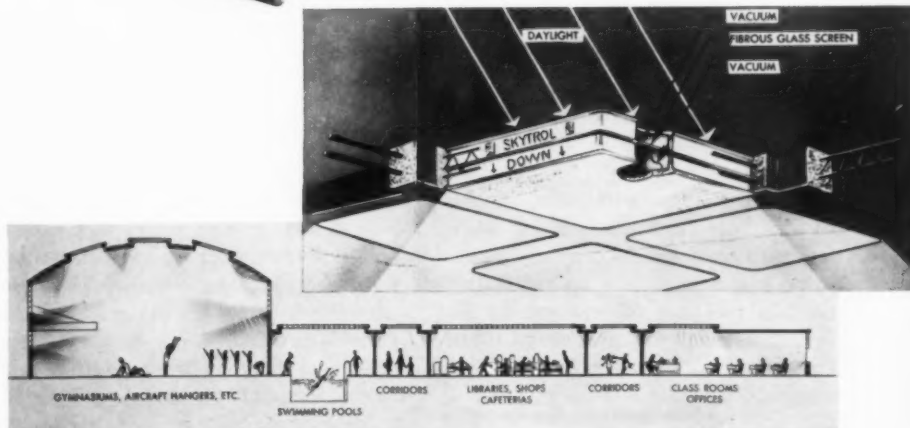
To accommodate the new skylight block, the manufacturer also developed a construction and installation system for use with it. This consists of a grid framework of welded steel trusses running in the load-bearing direction and, at right angles to these trusses, two $\frac{3}{16}$ in. diameter tie wires. These latter are run at the top and bottom through the trusses to form a series of grids, each of which accommodates a 12 in. block. Two $\frac{3}{8}$ in. diameter deformed bars are run continuously around the perimeter of the frame. When the blocks are in place over wood forms, concrete is poured and worked around them either by tamping or vibrating, then is screeded level with the top surfaces of the blocks, which are smooth and polished (the bottom surfaces are ribbed, to direct light). The blocks themselves are edge-constructed to provide a "key lock" concrete joint and are edge coated with a resilient plastic to improve bond with the concrete. When forms are removed, blocks, concrete and reinforcing steel all form an integral skylight slab.

According to the manufacturer, panels detailed and installed as specified by his instructions will provide years of trouble-free, weather-tight service without requiring special maintenance.

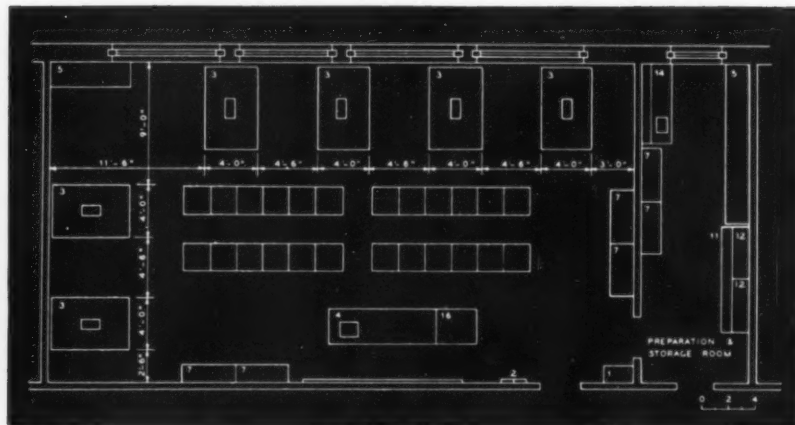
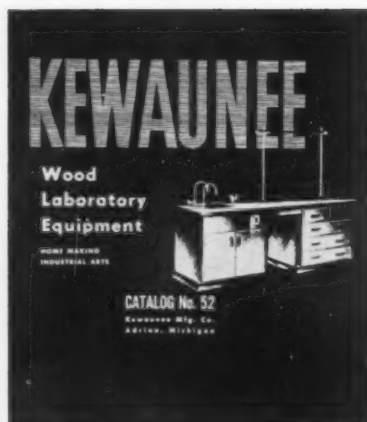
(Continued on page 208)



Above: a closeup view of the exterior of a glass block skylight, showing the blocks and the poured concrete frame. Left: two of the specially-developed blocks. Ribbed lower surface is shown in foreground, smooth upper surface in background. Below, top: diagram illustrates construction of skylight system. Below, bottom: typical applications for the new skylight



LITERATURE FOR THE OFFICE



School equipment catalog, left, includes suggested typical layouts for classrooms such as combination science laboratory, right

School Furniture

Kewaunee Catalog No. 52. A wide variety of wood furniture and accessory equipment for school laboratories, science rooms, homemaking classrooms, and industrial arts rooms is shown and described in this large, well-illustrated catalog. A number of typical layouts for classrooms accommodating these studies are included, together with photographs and drawings of the various equipment. A separate section on specifications is furnished, and the whole volume is indexed by categories, for easy reference, and cross-indexed as well. 299 pp., illus. Kewaunee Mfg. Co., Adrian, Mich.*

Incandescent Lighting

A Comprehensive Factual Definition of Art Metal Incandescent Lighting. Detailed catalog of commercial incandescent lighting products includes 47 new products described by the manufacturer as "each representing a unique, fresh idea — a previously unexplored approach to incandescent lighting." Product illustrations, performance statistics, lighting calculations, mechanical construction data with cross section drawings, application suggestions, data on installation methods and general engineering information are all included. 60 pp., illus. Art Metal Co., Cleveland 3, Ohio.

⁹ Other product information in Sweet's Architectural File, 1953.

Vertical Blinds

Thru-Vu, the Versatile Vertical Blind. Brochure pictures typical installations of the manufacturer's fabric or plastic vertical blinds. Drawings and details of various types of installations are included, together with specifications and directions for ordering. 4 pp., illus. Thru-Vu Vertical Blind Co., P. O. Box 266, Rye, N. Y.

Hospital Signaling Systems

Here's How to Bring Your Hospital Up to Standard. This little booklet contains information concerning the manufacturer's varied line of signaling equipment for hospitals. Includes data on a radio paging system which employs small individual receivers carried by each doctor and which eliminates the need for wiring or conduit. 16 pp., illus. The Standard Electric Time Co., 75 Logan St., Springfield 2, Mass.*

Auto Wash Racks

Designing the Conveyorized Wash Rack. File folder includes information on the designing of conveyorized wash rack systems for automobile washing and buildings for housing such systems. Details of the manufacturer's architect consulting service are outlined and a questionnaire form for obtaining additional data is included. 4 pp. in file folder; additional bulletins to be issued. Wash Racks, Inc., 5140 Stanton Ave., Detroit 8, Mich.

Rolling Doors

Kinnear Rolling Doors, Bulletin No. 75. Complete catalog of the manufacturer's products includes sections on steel rolling service doors, fire doors and shutters, bi-fold vertical lift doors, roll-top sectional vertical lift doors in steel or wood, steel rolling grills and special doors and counter enclosures. General data, construction features, specifications, special data and up-to-date dimensional information are all included, together with photographs and details. 31 pp., illus., Kinnear Mfg. Co., 829-870 Fields Ave., Columbus 16, Ohio.*

Restaurant Furniture

(1) *Stools of Distinction*; (2) *Stools and Table Bases*; (3) *Tables*; (4) *Industrial and Institutional Sectional Tables*. These four brochures illustrate and describe the manufacturer's tables, table bases and stools in a variety of styles and finishes. Dimensions, details and installation instructions are included. 11 pp., 4 pp., 4 pp., 4 pp., all illus. Chicago Hardware Foundry Co., North Chicago, Ill.

Engineering Data For Heating Systems

Engineering Data Manual, No. 2695. Booklet contains information on various aspects of heating. Includes sections on steam data, water properties, piping data, weights and measures, pipe and fitting dimensions, heating terminology.

(Continued on page 278)

RADIANT HEATING SYSTEMS FOR HOUSES - 20: ELECTRIC SYSTEMS

By William J. McGuinness, Professor of Architecture, Pratt Institute

PLANNING AND OPERATION

Radiant heating has a number of distinct advantages already discussed in TSS August 1951, Sheet 1. There is little difference in the performance of a good radiant system whether the heating medium is hot water or electricity. There are, however, several good qualities in the planning and operation of electric systems in preference to hot water systems when the relative cost permits the use of electricity. They are:

1. A switch and thermostat in each room makes control much easier and more compact than more bulky and costly controls of hot water. Individual control of rooms is seldom attempted in hot water radiant heating.
2. There is greater freedom of planning due to the elimination of pipes, utility rooms, fuel storage.
3. There is no need for drainage in cold weather when the house is left unoccupied and unheated.
4. Water leaks are eliminated.
5. Flue gas odors and the possibility of carbon monoxide poisoning are eliminated.
6. There is frequently a lower fire risk when low temperature resistance wires replace a fuse.
7. Faster response in the use of glass wall panels and prefabricated panels of thin material for ceiling installations.
8. No responsibility in ordering fuel.

Economy

Electric radiant heating is nearly always cheaper to install than hot water radiant. Sometimes the saving is very great. The cost of electric current is usually greater than the cost of gas or oil. Depending on the rate per kilowatt-hour in various localities the comparative cost of electricity for heating can vary from the same or slightly less than other fuels to a high level of two or three times as much. A careful comparison of original cost and of yearly expense for fuel, maintenance and amortization of debt must be made for a specific installation in a given location before a choice can be made on the

basis of cost. In favor of electricity are the following reductions in items of original cost or the amortization thereof —

1. Elimination of heating equipment such as boilers and burners and the fire-safe construction to house them.
 2. Omission of fuel storage equipment and enclosures.
 3. Omission of chimney and flue.
- Items of periodic expense that may be avoided by the use of electricity are —

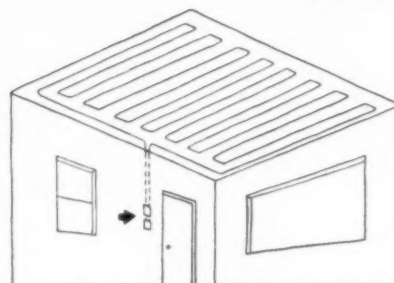
- A. Yearly cleaning and adjustment of heating plant.
- B. Service and replacement of mechanical parts.

Methods of Electric Radiant Heating

These may be grouped into four categories, see Fig. 20.

1. Electric cables in ceiling or floor
2. Prefabricated ceiling panels
3. Radiant glass or ceramic panels
4. Electric baseboard

Fig. 20 — Methods of Electric Radiant Heating



A.

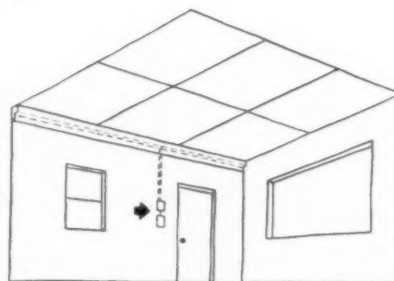
A. Electric Cables in Ceiling or Floor

Low-temperature, insulated heating wire imbedded in the plaster or in concrete floors and connected to the power source by normal wiring.

Most invisible system.

May be used in both ceiling and floor, and concentrated in cold spots.

Low temperature and even distribution.



B.

B. Prefabricated Ceiling Panels

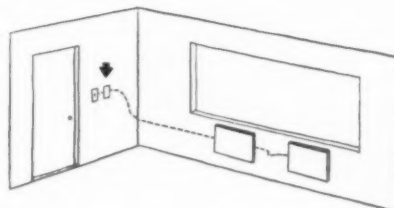
A layer of rubber containing conductive material set between layers of phenolic resin and backed with asbestos board. Thickness 1/4 in. Similar construction in wall-paper thin material and other similar products available.

Dry construction.

Thin panel makes for fast response.

Joints show.

Low temperature and even distribution.



C.

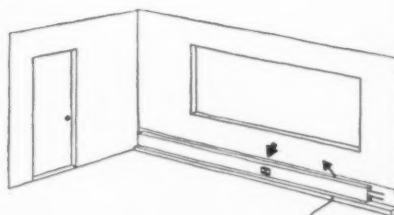
C. Radiant Glass Panels

Glass panels on the back of which an aluminum grid forms a resistance element for heating.

Low thermal capacity assures fast response.

Drapes must not cover.

Good also as auxiliary panels in other heating systems.



D.

D. Electric Baseboard

A convector type metal baseboard with resistance wires in the protected air space.

Mostly convective.

Drapes must not blanket air flow.

Effective in reversing cold down draft at windows or cold walls.

↑ All four methods suitable to switch and thermostat control in each room.

BENEDICT ADE
ARCHITECT
840 UNIVERSITY AVENUE
ROCHESTER 7, NEW YORK

The high level of natural daylight admitted by the large Thermopane insulating glass windows in the Rush-Henrietta Central School provides excellent illumination throughout the classrooms all day long. On desks farthest from the windows we get light meter readings of 50 footcandles on bright days. That is well over the accepted American Standard Practice minimum of 30 footcandles. On sunny days, during periods of excessive brightness, light is easily controlled by means of venetian blinds and roof overhang.

Everyone is agreed that children love these bright rooms that seem almost to be part of the great outdoors. They don't feel shut in, but as free as the sky itself. Furthermore, the insulating glass helps keep desks near the windows as comfortable in winter as those next to the interior classroom wall.

The Rush-Henrietta Central School was built at a cost of 62 cents per cubic foot which, in comparison with most other public schools erected recently in this area, is quite low. Yet the building contains many refinements and modern improvements, such as radiant heat, ventilation, glazed tile wainscote in classrooms, corridors, gymnasium and locker rooms, terrazzo floors and metal acoustic ceilings in corridors, and insulating glass not commonly found in schools.

Benedict M. Ade

Two Panes of Glass

Blanket of dry air insulates window

Bondermetic (metal-to-glass) Seal* keeps air dry and clean



Thermopane Details

Thermopane* insulating glass with 1/2" of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows. Thermopane also cuts air-conditioning costs by reducing the amount of heat entering during summer. It cuts out 44% more noise than single glass.

Write for the latest literature on school daylighting. *How to Get Nature-Quality Light for School Children.* This brief booklet is factual, detailed, authoritative, written for architects. Also, write for the latest Thermopane literature for your file.

LIBBEY • OWENS • FORD GLASS COMPANY
4133 Nicholas Bldg., Toledo 3, Ohio

THERMOPANE • PLATE GLASS • WINDOW GLASS

DAYLIGHT WALLS

THAT DON'T OBSCURE VISION



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RADIANT HEATING SYSTEMS FOR HOUSES-21: ELECTRIC SYSTEMS

By William J. McGuinness, Professor of Architecture, Pratt Institute

ELECTRIC CABLES IN CEILING OR FLOOR

The Method

Factory made units consisting of coils of resistance wiring with special insulation and connected to non-heating leads are used (see Table 8). In each room, one or more of these units are imbedded in the plaster ceiling or the concrete floor or both. They are connected in parallel through a thermostat to a room switch. Each room is served by wiring connected to a general load center where overload protection is provided. For the larger outputs higher voltage is selected resulting in a smaller current and smaller wires to serve the heating elements. The general electric service for lighting and other non-heating use joins the heating load center and is connected to the main house switch.

Material and Equipment Used

A manufacturer's list of available heating cables is shown in Table 8. They are made in various lengths to suit different conditions. It will be noted that all the cables have an output of precisely 2.75 watts per ft. of length. It is necessary only to select the necessary length to make up the room heat loss. Element out-

puts in Btu per hour may be found by the conversion factor of 1 watt equals 3.41 Btu per hour. The smallest and largest units have outputs as follows —

Unit 1 195 Watts
665 Btu per hour

Unit 15 2810 Watts
9600 Btu per hour

Small bathrooms frequently have an hourly heat loss of about 1200 Btu per hour and a large modern living room with much glass often has a loss of 30,000 Btu per hour. Thus small and average rooms will require one unit while large rooms may require as many as three or four, corresponding to the three or four coils of pipe or tubing in a large room heated by hot water radiant coils.

Special thermostats have been developed by manufacturers of equipment for electric radiant heating. Some of these when connected to two coils in parallel will operate one coil in mild weather at low output and connect the second coil under severe conditions for full output. Wiring from room controls to the load center is installed in accord with long-existing rules of the National Electric Code. The only variation from conventional wiring is that at some locations this non-heating supply wir-

ing passes in enclosed joist spaces directly adjacent to the heating elements. Here the wire and insulation must be selected to operate at temperatures higher than the usual house temperature. This higher temperature is assumed to average 50 deg Centigrade (122 F).

Underwriters' Approval

In the use of this equipment architects and engineers need to feel confident of its safety. The Underwriters' Laboratories have conducted tests and have given full approval when labelled products are chosen and installed in accordance with recommended practices. The following tests and their results are indicative of qualities needed for safety:

1. Physical Properties of Insulation

The special synthetic compound used as insulation on the heating element was found to be satisfactory in tensile strength and elongation.

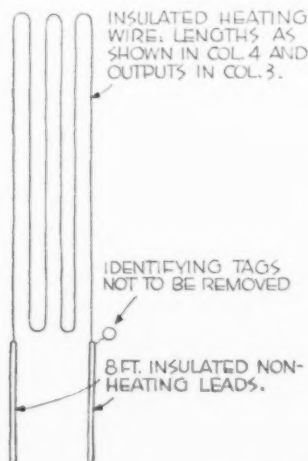
2. Electrical Properties of Insulation

Tests proved these to be acceptable in spite of the wetting processes of plastering and concreting.

Table 8. Typical Schedule of Heating Elements

1 Unit No.	2 Rated Volts	3 Rated Watts	4 Length, Feet
1	120	195	70
2		421	153
3		885	322
4		1120	407
5		1405	510
6	220	350	128
7		775	281
8		1620	590
9		2055	747
10		2570	935
11	240	390	140
12		840	306
13		1770	644
14		2240	814
15		2810	1020

Conversion Factor 1 watt = 3.41 Btu per hour



Units must be used as received from the manufacturer. Shortening the heating wire or the leads will void the approval by Underwriters Laboratories. Ratings, courtesy of L. N. Roberson Co., Seattle, Washington.



MODERN DOOR CONTROL
BY *LCN*

CLOSERS CONCEALED IN DOORS

HOTEL MUEHLEBACH,
KANSAS CITY, MISSOURI

LCN CATALOG 12-A ON REQUEST OR SEE SWEETS

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Neville, Sharp & Simon, Architects

RADIANT HEATING SYSTEMS FOR HOUSES-22: ELECTRIC SYSTEMS

By William J. McGuinness, Professor of Architecture, Pratt Institute

3. Factory Splices

The connection of the heating element to the non-heating leads was found strong, well insulated.

4. Input Test

The rated input was checked and found to be as stated.

5. Burnout Test

The heating elements withstood reasonable overloads and will not burnout if properly fused.

6. Mechanical Abuse Test

Considerable care is needed to protect heating wire and insulation during installation. Check tests are recommended during and after covering the wire.

7. Cracks in Concrete

Wire and insulation were not broken by cracking simulating normal settlement of a house. Only violent cracking damaged units.

8. Temperature Test

It was found that wires supplying the heating elements and located in the structure adjacent to the heated surfaces should be selected to operate in temperatures higher than room temperatures.

9. Resistance of Insulation in Place

When insulation was purposely damaged it showed as a bad condition while the plaster and concrete were wet but it improved as these materials dried out.

10. Locating Damaged Insulation

It is possible to locate damaged insulation of wires imbedded in plaster or concrete by a metal probe moving on panel surface.

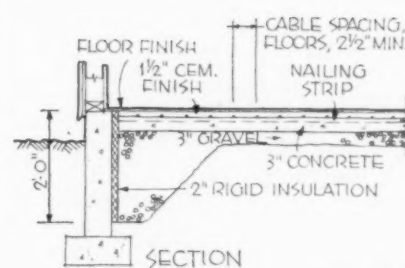
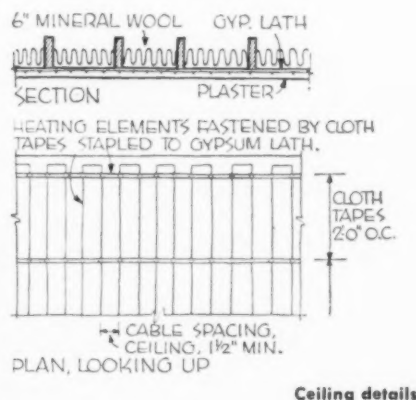
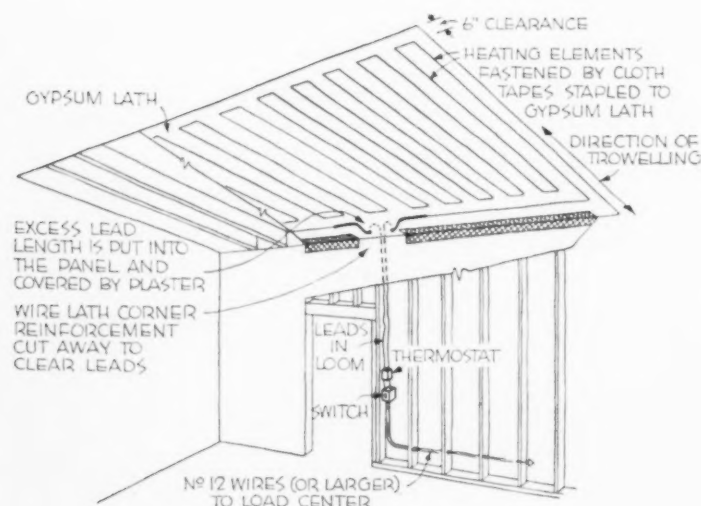
METHODS OF INSTALLATION

Fig. 21 illustrates typical methods of installing cables in ceiling or floor panels. In ceilings the $\frac{1}{2}$ in. diameter heating element is held against gypsum lath by cloth tapes 2 ft on centers. Staples through the tape on each side of the wire hold both tape and wire against the lath. Excess lead length must not be cut off and may be attached to the ceiling like the heating wire and later imbedded in plaster. Leads run through protective covering known as loom to the

thermostat. Heating wires are usually kept about 6 in. clear of side walls and may be spaced evenly throughout the ceiling or concentrated in areas of greatest heat loss. All metal including metal lath corner reinforcement must be kept 2 in. clear of wiring. Plaster is applied in the direction of the heating wires and great care must be exercised to prevent damage to the wire or insulation. For insulation in the roof joist space above panels 6 in. of mineral wool is recommended.

Floor installations are made by fastening the heating wires to a concrete slab by cementing them in place or tacking them through cloth tapes to nailing strips imbedded in the concrete surface. The wires are then surrounded and covered by a $1\frac{1}{2}$ in. dense cement finish. Gravel below the slab and 2 in. of rigid perimeter insulation follow the usual radiant heating requirements for slab insulation. The leads that connect to the floor heating element can be run in rigid conduit. Round-edge bushings of insulating material protect the leads as they enter the metal junction boxes.

Fig. 21 — Installation Methods



here's



proof...

**In Construction Products
CECO ENGINEERING
Makes the Big Difference
Builds Better . . . cuts costs!**

CECO STEEL PRODUCTS CORPORATION

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General Offices: 5601 W. 26th St., Chicago 50, Illinois




For years we have said . . . "In Construction Products CECO ENGINEERING Makes the Big Difference" .

Here's proof:

A recent job emphasized the value of this service difference. Modestly, we hope, we give it mention here.

Architect Joseph D. Murphy with artist Robert Harmon and stained-glass window fabricator Emil Frei had an imaginative idea for a great window mural for St. Ann's Catholic Church in Normandy, Missouri. But there was a design problem. Working closely with Architect Murphy and contractor Oscar Schneiderhahn, Ceco helped work out a solution. Steel was recommended for the window with the outside frame and intermediate mullions made up of heavy channels.

Ceco designed standard window sections to fit between the channels. A mullion was provided consisting of 1/4" flat plate with Ceco head and sill sections of intermediate design. Ceco standard intermediate "T" muntins served as comes for the leaded glass.

But Ceco Engineering Service went further. Design of the reinforced concrete floor joists, employing Meyer Steelform construction, again provided savings in men, money and material. Ceco also supplied reinforcing steel and all windows, screens and screen doors. 



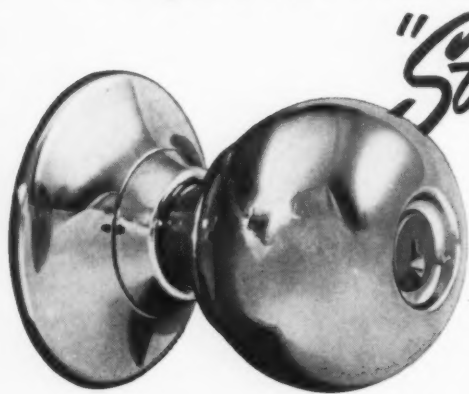
Pride of Crawford County, Pa.



CRAWFORD COUNTY COURT HOUSE, Meadville, Pa., is being equipped throughout with Russwin Builders' hardware — "Stilemaker" locks, fire exit bolts, door closers, door stops. DEALER — McEnery Co., Erie, Pa.

ARCHITECTS—Hanna & Stewart, Merchants Bank Building, Meadville, Pa.
GENERAL CONTRACTOR — L. H. Ludwig & Co., Inc., Falconer, N. Y.

... gets the advanced-design



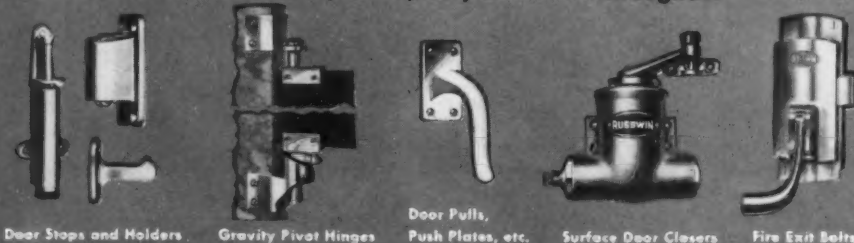
"Stilemaker"
heavy-duty
lockset

RUSSWIN[®]
"Stilemaker"

Smart styling, simple installation and trouble-free operation have led architects throughout the country to specify the Russwin "Stilemaker". This precision-made lock provides extra long life, utmost security. It is available in five designs and 26 functions. Send for detailed information. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

THE "YEARS AHEAD" LOCK FOR "YEARS AHEAD" BUILDING

Be SURE to satisfy ... specify **RUSSWIN** throughout



Door Stops and Holders

Gravity Pivot Hinges

Door Pulls,
Push Plates, etc.

Surface Door Closers

Fire Exit Bolts

Architectural Engineering

PRODUCTS

(Continued from page 197)

When they are subjected to cold rain, snow, hail or other adverse conditions after daylong exposure to hot sunlight, the blocks will reportedly resist a cold shock of 100 deg F without breakage. They also are said to have great impact resistance and structural strength. Other advantages cited for the new panel skylights include even, glare-free lighting, greater thermal insulation than that provided by ordinary skylights and effective condensation control. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.

Marble Topped Tables

Available in a variety of shapes and sizes, a group of *Lehigh* occasional tables features marble tops which appear to float over the bases. The marble may be obtained in a wide range of color variations—from whites to blacks and in



Marble topped tables on solid walnut bases come in a variety of colors

greens, pinks and browns—and the bases are made of solid walnut available in all finishes. Included in the group are cocktail tables, square, round or rectangular; end tables in two sizes; a square corner table and a bridge table. In addition, the tops may be obtained in wood, glass or a plastic laminate. Lehigh Furniture Corp., 16 E. 53rd St., New York 22, N. Y.

ARCHITECTURAL RECORD

PRODUCTS

Contemporary Lamps

Brass, copper and wood are the basic materials used in a new group of lamp designs by Yasha Heifetz. Light, whimsical forms make up the metal collection, while sculptured and slender finials compose the wood group. Including both floor and table models, the lamps have been designed to perform specific functions—the height, position of light



Wood and enamel have been pleasantly combined into a modern, functional lamp

source and the shielding of light having been analyzed and translated into the particular requirements of each individual unit. The application of enamels on copper lends a decorative appeal, and the grain in the wood group is brought out through a skillful drilling process. The mobile units are made up in one or more of the aforementioned materials, and afford a wide selection. The Heifetz Co., 16 E. 53rd St., New York 22, N. Y.

**New Method
Of Applying Wallpaper**

A new method of hanging wallpaper has recently been developed with the introduction of *eZe-Hang Wallpaper Adhesive*. Applied directly to the wall with a roller instead of on the paper,
(Continued on page 214)

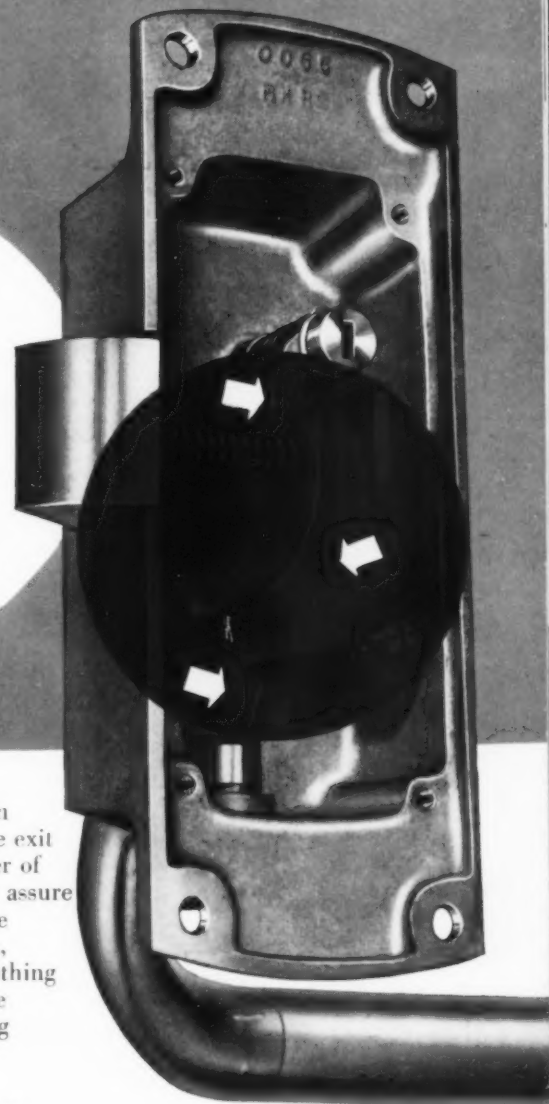
MARCH 1953

Preference of Safety-minded Architects

Only

3

Moving Parts



You'll find dependable safety in the simplicity of a Russwin fire exit bolt. It has a minimum number of parts . . . unit construction to assure permanent alignment . . . Oilite bearings to provide trigger-fast, trouble-free action. There's nothing to bind. Other features include drop-forged levers, self-latching construction, and a fool-proof dogging device.

You can specify Russwin with absolute confidence for *all* of your builders' hardware requirements. Illustrated below are leading items in the complete Russwin line. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

SINCE 1839
RUSSWIN
DISTINCTIVE HARDWARE

Be SURE to satisfy . . . specify RUSSWIN throughout



"400" Closers



Overhead Door Holders

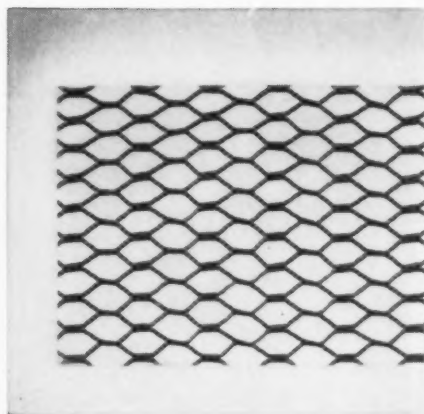


Miscellaneous Hardware

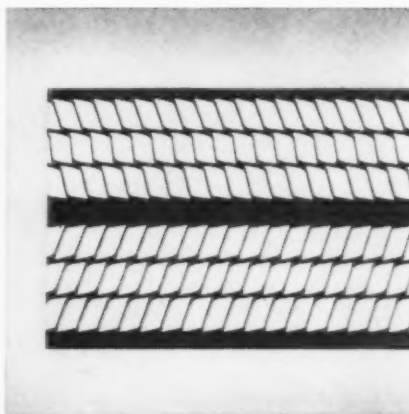


"Ten Strike" Cylinder Locks

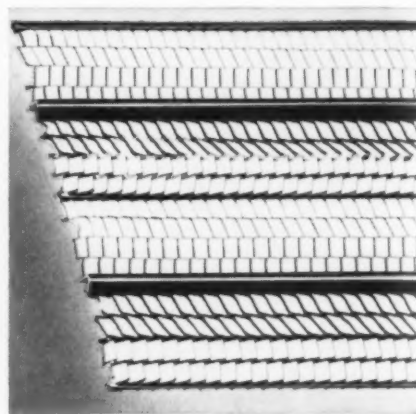
***Available now -
for immediate shipment...
these and all other Gold Bond Metal Accessories!***



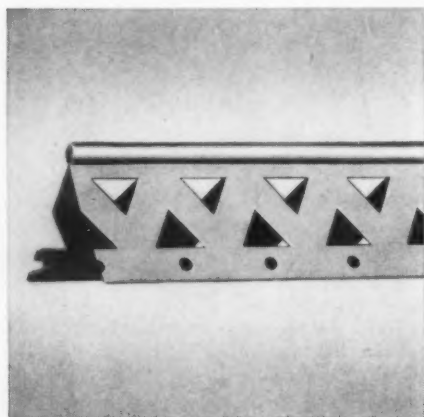
1



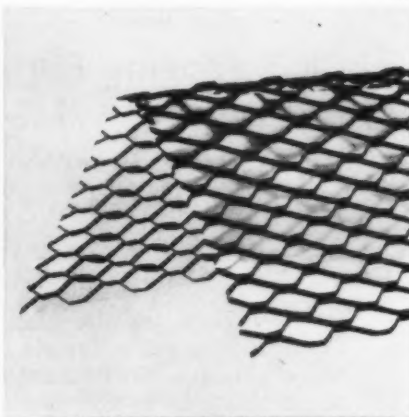
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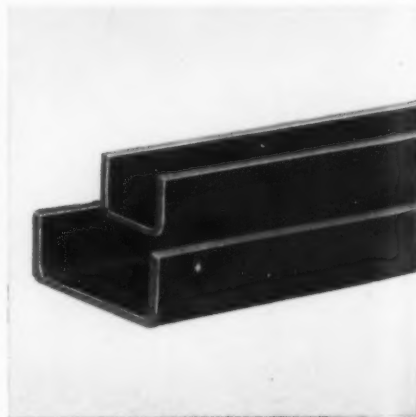
3



4



5



6

1. Gold Bond Small Diamond Mesh Lath is the standard lath for all types of plastering jobs. Each sheet is fully expanded, perfectly level and individually resquared.

2. Gold Bond 1/8\" Flat Rib Lath meets demand for more rigid expanded metal lath. Exceptional rigidity and plaster-saving qualities make it popular in nail-on work over wood framing.

3. Gold Bond 3/8\" Rib Lath. Newest innovation combines plaster-saving qualities with extreme rigidity for ceilings under bar joists. Easy lapping edges eliminate cracking at joists.

4. Gold Bond Arch Corner Bead is used to reinforce plaster at any exterior corner. Used straight for strong vertical or horizontal corners, or can be quickly cut and bent on the job to form arches of any style.

5. Gold Bond Safe-Edge\" Cornerite. Scientific tests prove Cornerite gives maximum reinforcement to interior corners, either vertical or horizontal, over wood, insulation or gypsum lath. Speeds plastering, protects workmen—there are no rough edges.

6. Gold Bond Cold Rolled Channels are used as supporting members for attaching metal lath in all types of fireproof construction; as studs in 2\" solid partitions; and as runners and furring members in suspended ceilings.

These are only a few of the many Gold Bond Metal Products that are available for immediate shipment. For description of the complete line, sizes, shipping weights, etc. write for handy Gold Bond Products Book No. 1345...free if requested on your letterhead.

*Trademark of National Gypsum Co.

**You'll build or
remodel better with
Gold Bond**

NATIONAL GYPSUM COMPANY • BUFFALO 2, N. Y.

Lath, Plaster, Lime, Sheathing, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Roofing, Siding, Fireproof Wallboards, and Decoration Insulation Boards.

NOW... interchange Gas and Oil firing in 10 seconds

Modern Cleaver-Brooks
Model LR Steam Boiler
Equipped with Exclusive
Cleaver-Brooks "10-second
conversion" Combination
GAS and/or OIL Burner



TWO, simple motions eliminate time-consuming change-over

Now you can use oil or gas at the flick of a switch! This exclusive new Cleaver-Brooks development permits changeover from oil to gas or vice versa in only 10 seconds.

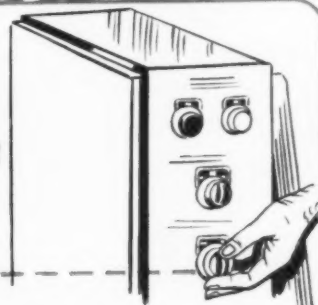
That's because the Cleaver-Brooks Combination Gas and/or Oil Fired Boiler operates on gas *with the oil burner in place*. Simply flipping a selector switch on the control panel to either gas or oil sets the proper circuit in action. Turning the convenient fuel supply valves completes the entire changeover — and in 10 seconds or less!

To gas users in all parts of the country — and in particular areas where local requirements demand immediate changeover — this exceptional fuel flexibility can be an important factor in determining your overall operating economy.

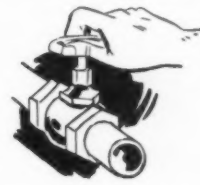
Ten-second conversion, like 4-pass construction, self-contained design, guaranteed 80% efficiency, is another "plus" feature pioneered by Cleaver-Brooks. It demonstrates Cleaver-Brooks' continuing effort to bring steam users even greater flexibility and reduced operating costs.

If you are considering simplifying your present boiler plant, remember Cleaver-Brooks Combination GAS and/or OIL Fired Boilers. Sizes 15 to 500 h.p. — 15 to 250 p.s.i. Write for complete facts.

1 TURN
SELECTOR
SWITCH
TO GAS
OR OIL



2 TURN OFF ONE FUEL
LINE AND OPEN THE OTHER



Cleaver-Brooks

Originators of the
Self-Contained Steam Boiler



CLEAVER-BROOKS COMPANY

Dept. C, 335 E. Keefe Ave., Milwaukee 12, Wis., U.S.A.
Cable Address: Clebro-MilwaukeeWis

Builders of Equipment for the Generation and
Utilization of Heat • Steam Boilers • Oil and Bitumen
Tank-Car Heaters • Distillation Equipment • Oil and
Gas-Fired Conversion Burners



Get the FACTS on *Fleetlite* DOUBLE, DOUBLE HUNG *Aluminum Windows*



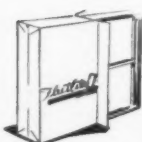
A REVOLUTIONARY NEW DEVELOPMENT

FLEETLITE is a revolutionary new window—a complete year-around unit combining interior and exterior double hung windows and screen in a 4-channel extruded aluminum frame! Its advanced design makes FLEETLITE a practical, handsome unit that every architect working on home plans will want to investigate.

Architects everywhere appreciate the amazing freedom of design offered by FLEETLITE double hung windows—and the matching picture windows—in any size or shape.

The tight construction of these fabulous windows, together with the double window feature, saves fuel costs, keeps out dust and heat in warm weather. Smaller, less expensive air conditioners may be used.

Hundreds of thousands of FLEETLITE Windows have been installed in new homes throughout the U. S. and Canada. Home owners are delighted with the beauty and everlasting construction of FLEETLITE windows. It is so easy to raise the lightweight sash for ventilating the house, so easy to remove them for cleaning.



WRITE TODAY
for complete literature on
FLEETLITE Windows
TERRITORIES OPEN
FOR FULL TIME
FACTORY REPRESENTATIVES

As advertised in House Beautiful, House and Garden, Small Homes Guide,
American Builder, Practical Builder, Magazine of Building, Architectural Record, etc.

Made by . . .

FLEET OF AMERICA, INC. • 407 Dun Building, Buffalo 2, New York

Fleetlite
AMERICA'S Finest WINDOW



Architectural Engineering

PRODUCTS

(Continued from page 209)

itself, the adhesive is ready-mixed to required consistency. All that is necessary to paper a room is a paint roller, a shallow pan to hold the adhesive, a clean cloth and a razor blade. After the adhesive has been applied to the wall, the paper is rolled on, cut at the bottom with the razor blade and smoothed out with a clean cloth. One of the features of the adhesive is the fact that it is re-activated with the addition of water. If an interruption occurs during the hanging process when the wall is only partially papered, the remaining unpapered portion (which has adhesive already on it) may be sponged with water, enabling the paper hanger to continue the job where he left off. Water is similarly used to remove paper which has been applied, by thoroughly soaking the papered wall, waiting a few moments and repeating the treatment, letting stand a few more minutes and removing by stripping each panel off in one unbroken piece. Can be used with any pre-trimmed wallpaper or any wall-covering, and will adhere to almost every surface. eZe-Hang Wallpapers, Commercial Packaging Co., Hammond, Ind.

Grease Eliminator For Duct Systems

Designed to prevent accumulation of gases and lint in duct systems and to protect motor and blower equipment, a Far-Air grease eliminator is now available for installation in restaurant kitchen ventilating systems where exhaust ducts present a fire hazard. Inconvenient and costly cleaning of ducts is reported to be minimized by the unit, which is available in a wide range of sizes and finishes to match existing kitchen equipment. Filters for the unit are said to be easily removable and can be easily snapped back in place. The filters may be cleaned by flushing them under a hot water tap or placing them in a dishwasher. The unit includes a suspended tray which catches dripping grease accumulated by the filters. Farr Co., P. O. Box 10187, Airport Sta., Los Angeles 45, Calif.

(Continued on page 218)

**Some of the Famous Users of Weldwood
Fire Doors and Weldwood Stay-Strate Doors**

LEVER HOUSE New York City	ARMISTEAD GARDENS SCHOOL, Baltimore, Md.
LEVITT & SONS Levittown, N. Y. and Pa.	STANISLAUS CITY HOSP. Glendale, Calif.
UNIVERSITY OF MIAMI Miami, Fla.	CHERRY HILL PROJECT Baltimore, Md.
BELLEVUE HOSPITAL New York City	PRESBYTERIAN HOSPITAL New York City
SPARKS MEMORIAL HOSP. Fort Smith, Ark.	488 MADISON AVENUE New York City
CROWN IRON WORKS St. Paul, Minn.	

ARMISTEAD GARDENS
SCHOOL, Baltimore, Md.

STANISLAUS CITY HOSP.
Glendale, Calif.

CHERRY HILL PROJECT
Baltimore, Md.

PRESBYTERIAN HOSPITAL
New York City

488 MADISON AVENUE
New York City

CROWN IRON WORKS
St. Paul, Minn.



One of the 31 beautiful Weldwood Fire Doors in the new wing of the Union Theological Seminary, New York City. Architects: Collens, Willis and Beckonert.



These Weldwood Stay-Strate Doors, in the Fitkin Memorial Hospital, Asbury Park, N. J., combine birch faces on one side with walnut faces on the other. The addition of walnut moldings was all that was necessary to give traditional paneled effect. Architects: Ferrenz & Taylor.

You are always Safe When You Specify
Weldwood Fire Doors
and **Stay-Strate Doors**



Weldwood "Stay-Strate" flush door with fire retardant panels of matched birch in natural finish in Greenwich Hospital, Greenwich, Conn. Architects: Skidmore, Owings & Merrill.



Lever House, New York City, combines safety and beauty with Weldwood Fire Doors. Architects: Skidmore, Owings & Merrill.

The Weldwood Fire Door gives you the protection of the Underwriters' Laboratories Class "B" and "C" Labels, together with the striking beauty of fine hardwood face veneers.

It provides maximum durability, dimensional stability, resistance to vermin and decay, low initial and maintenance costs.

The Weldwood Stay-Strate Door is available in the same wide range of beautiful hardwood faces as the Weldwood Fire Door . . . and offers the same advantages except that the edge banding is not fireproofed. It is widely specified for unclassified openings as the perfect complement to the Weldwood Fire Door.

Yes, the Weldwood Fire Door and the Weldwood Stay-Strate Door make a beautiful team for safety! Send for complete information about both of these Weldwood doors — and remember that *guarantee* that goes with each of them.

Patent No. 2593050

WELDWOOD® FLUSH DOORS

Manufactured and distributed by

UNITED STATES PLYWOOD CORPORATION

World's Largest Plywood Organization

55 West 44th Street, New York 36, N. Y.

**Branches in Principal Cities • Distributing Units in Chief Trading Areas
Dealers Everywhere**



for *Schools...*
and all public buildings



Here is a representative school installation of Weisart Toilet compartments and panel-type built-up shower enclosures.

WEISART COMPARTMENTS

modern appearance

maximum cleanliness

enduring service

For the stamina to withstand the hardest usage and still retain their good looks, specify Weisart toilet compartments. Their enduring serviceability has triple protection, (1) flush steel construction with edges locked and sealed, galvanized surface smooth as furniture steel, (2) Bonderized for additional corrosion resistance and positive adhesion of enamel, (3) synthetic primer and enamel separately baked, combining highly protective surface with lustrous beauty. Choice of 24 colors! Their engineered construction assures long years of service and fine appearance that lasts. Write for new 1953 catalog and chart of 24 colors.

HENRY WEIS MFG. CO., INC., 303 Weisart Bldg., Elkhart, Indiana

Architectural Engineering

PRODUCTS

(Continued from page 214)

Plastic Tubing for Cables in Prestressed Concrete

Aeroflex plastic tubing, developed by Anchor Plastic Co. in cooperation with John Roebling's Sons Co., is a new product designed to afford protection for tensioning cables or rods in prestressed concrete. The tubing prevents adherence of concrete to the cables and at the same time provides a friction-free covering. It is reported to solve problems of excess cost and poor protection encountered with paper-and-tape coverings. Split down its entire length, the tubing has a $\frac{1}{2}$ in. overlap with interlocking longitudinal corrugations which prevent con-



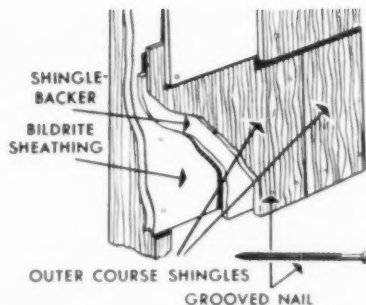
Plastic tubing was employed for cables in Barrett-Lick Garage, San Francisco

crete mix from seeping inside to lodge in interstices between cable wires. It is available in 10 ft random lengths which fit snugly over cables or rods in any standard diameter sizes from $\frac{3}{4}$ in. up. Wall thicknesses vary from .030 in. to .040 in., depending upon the diameter size. A workman can apply the tubing to a greased strand or rod by spreading the end open along the longitudinal split and feeding it in place as he walks along. After this, $1\frac{1}{2}$ in. or 2 in. masking tape is placed along the longitudinal overlap and fastened around the tubing on $1\frac{1}{2}$ or 2 ft centers (6 in. centers are usually used with paper covering).

(Continued on page 222)

costs \$83⁰⁰ Insulite's new System!"

Resists winds beyond 250 M.P.H. In a wind-tunnel test conducted at the University of Minnesota, a test panel was exposed to a 250 mile-per-hour air blast. Not a shingle was loosened. (Winds over 90 M.P.H. are classified as being of hurricane velocity.)



This typical home in John Worthman's Indian Village development illustrates the deep, modern shadow-line that Shingle-Backer, Insulite's new insulating under-coursing, gives homes. Insulite's Bildrite Sheathing provides twice the bracing strength and insulation value of wood sheathing.

INSULITE AND BILDRITE ARE REG. T.M., U. S. PAT. OFF.

Facts For Architects. The Insulite Technical Service Department will gladly supply you with complete data on this approved double-course shingle application method. Have your secretary write Insulite, Minneapolis 2, Minnesota.

INSULITE DIVISION,
Minnesota and Ontario Paper Company,
Minneapolis 2, Minnesota



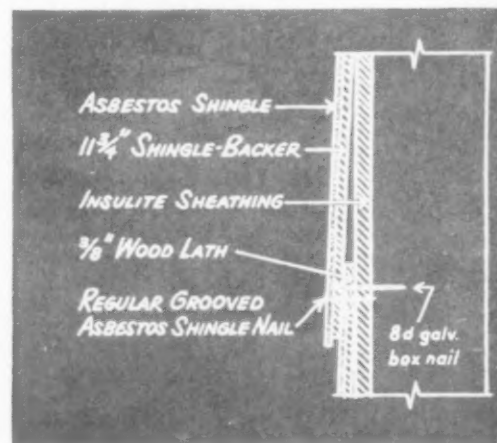
Build and insulate with double-duty **INSULITE**

Made of hardy Northern wood

**New! Insulite
develops glamour
treatment for asbestos-
cement shingled walls!**



Yes, this is an asbestos-cement side-wall! Insulite's new Shingle-Backer System for asbestos-cement siding shingles creates that attractive shadow-line that makes it look richer, more expensive. Yet, this better-built, better-looking sidewall costs no more (and in some cases up to \$2.53 a square less) to build than asbestos-cement shingles directly over wood sheathing!

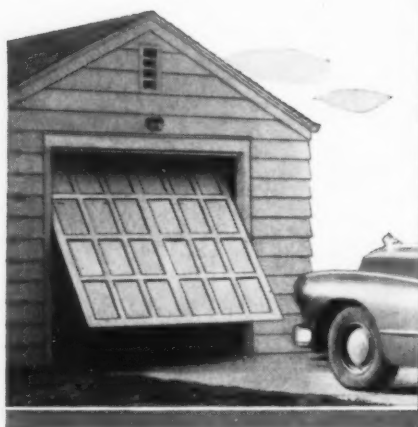


Asbestos-cement shingles are applied to Insulite Sheathing... no special nails or fasteners are needed. System increases shingle exposure from customary 10 1/2" to 11". Shingle-Backer provides cushioned base... reduces shingle breakage. System eliminates need for building paper. Increases insulation. Builds stronger, tighter walls. Write Insulite for complete data.

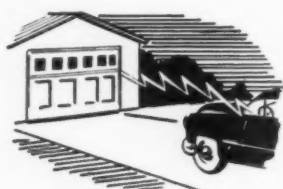
R-W Garage Door Operators

- **Convenient**
- **Practical**
- **Efficient**

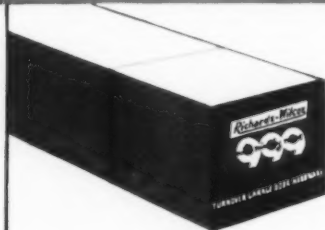
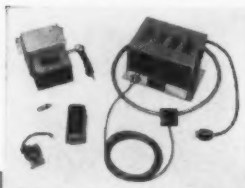
For every need—two R-W controls, designed and engineered for smooth sure performance



**No. 1251
Standard control**
—operates from drive-side key-switch



No. 1504 Radio control
—battery operated radio with dash control button opens and closes doors within 75 feet.



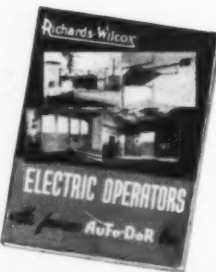
**And . . . R-W 999
Garage Door Hardware**
Complete overhead garage door hardware conveniently packed in one box! For single doors up to 200 lbs.; double doors up to 375 lbs. Write for folder giving full details.

Check these important R-W features!



- ✓ **Easy to install**—Completely assembled, including track, in a single carton at the factory.
- ✓ **Easy to service**—Simple adjustments, requiring no special tools, keep the doors working smoothly.
- ✓ **Safe**—A large friction clutch prevents operational failures with resulting damage to property. In power failure, doors may be operated manually.

For complete information on R-W AuT-o-DoR line see your nearest dealer or write for catalog number A-87



Richards-Wilcox Mfg. Co.
"A HANGER FOR ANY DOOR THAT SLIDES"
AURORA, ILLINOIS, U. S. A. • Branches in all principal cities.

Architectural Engineering

PRODUCTS

(Continued from page 218)

The tubing is reportedly unaffected by rain, frost and ice and can be applied and left in open forms prior to pouring of concrete. It also is reported not to rip or tear if struck by falling aggregate or a vibrator head during a pour. It is unaffected by chemical reaction in settling concrete. The tubing has already been used on many prestressed concrete structures including the Barrett-Lick Garage in San Francisco. Anchor Plastics Co., Inc., 36-36 36th St., Long Island City 6, N. Y.

Fountain Pen for Use With Drawing Ink

The *Pelican Graphos* is a drawing ink fountain pen with 58 separate interchangeable nibs, and is reported to furnish the draftsman, in effect, this many drawing pens in one. In addition, it is said to cut filling-time losses by 90 per cent. The pen is recommended for technical drawing, sketching, stenciling and lettering. It is reportedly light and well-balanced and will draw a uniform line from hairline thickness to $\frac{3}{8}$ in. When filled with any good drawing ink, it can produce sharp-edged characters for high-quality reproduction. The pen is manufactured by the European firm of Günther Wagner and is distributed in this country by John Henschel & Co., Inc., 105 E. 29th St., New York 16, N. Y.

Fixative for Drawings

Spray-Fix, a fixative for drawings and renderings, is a non-plastic compound said to dry with a flat, invisible finish which will not change the surface of paper or drawing and will not melt when subjected to heat, as in blue print and Ozalid reproduction. After the fixative has been applied, the drawing can still be worked on with all mediums, including water color. The product is packaged in a ready-to-use aerosol container which eliminates mouth atomizers and hand sprayers. This container has a new type valve which reportedly expels a fine, even mist, preventing spotting and running. Blair Art Products, % 634 Sterick Bldg., Memphis 3, Tenn.

(Continued on page 226)

Full-line flexibility ***answers water cooler problems***

Even in one factory, hotel, office building, store or institution, several different types of water coolers are usually required to serve, adequately, the varying groups of people who use them.

flexibility of the Westinghouse complete line allows dealing with only one source, yet lets you select Bottle, Pressure, Compartment, Explosion-Proof or Remote equipment, in capacities to suit the demands of any specific location—from 1 gallon to 22½ gallons, water or air cooled.

answers to the problems of type, capacity, floor space, appearance and convenience are readily found in the Westinghouse Architect's Kit, containing specifications and readable engineers' drawings. A copy will be sent on request. Or consult your Sweet's File, Section 28c/WE.

water cooler specialists are also at your service, to give you personal, competent assistance in determining the best coolers for specific needs and to insure the most reliable and economical performance.

problems can thus be solved quickly and easily when you entrust any water-cooling need to Westinghouse. Call your nearby distributor or write us for details and helpful co-operation. Westinghouse Electric Corporation, 653 Page Blvd., Springfield 2, Mass.

For water coolers, as for all our products—

YOU CAN BE SURE...IF IT'S Westinghouse

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division • Springfield 2, Mass.

WW22
22-Gallon,
Water Cooled



WSE6A
6-Gallon,
Explosion-Proof



WWE14A
14-Gallon,
Explosion-Proof



WAC2
Compartment
Pressure Cooler



WAP7A
7-Gallon, Plain
Top, Air Cooled



WWP13
13-Gallon, Plain
Top, Water Cooled



WBC1
Compartment
Bottle Cooler

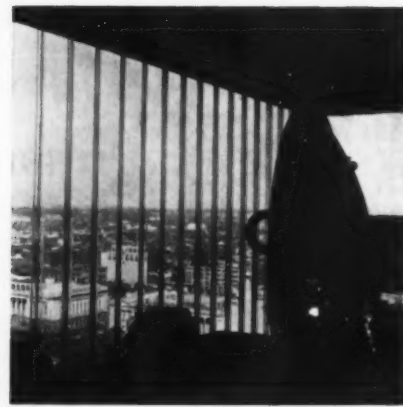


PRODUCTS

(Continued from page 222)

Acrylic Plastic Housings For Radio Relay Stations

A new use for *Pleriglas* has recently been developed — transparent protective walls for housing antennas of radio and television relay stations and radar installations. In an installation for a Philadelphia television station, acrylic



Exterior and interior views of plastic glazing for Philadelphia TV station



For Almost a Century...

PECORA has built with America as it helped America to build! For almost a century — since 1862 — Pecora standards of quality assure products of unquestioned excellence in materials for building construction and building maintenance.

Manufacturers of Caulking Compounds, Mastics, Putties, Glazing Compounds, Roof Coatings, Maintenance Finishes, Industrial Enamels.



Write for literature on
Pecora Construction and
Maintenance Materials.

PECORA PAINT COMPANY, INC.

—SINCE 1862—

FOURTH & GLENWOOD AVE., PHILADELPHIA 40, PA.

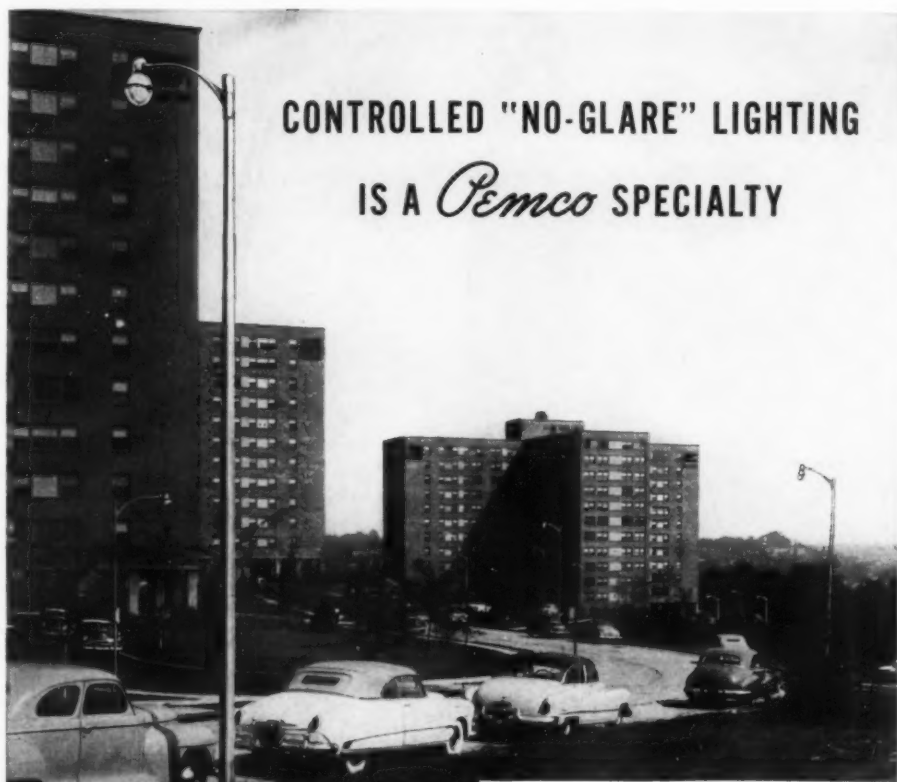
glazing was employed for a relay station atop a tall building to protect personnel and equipment from wind and weather. Transparency was necessary for proper directioning of parabolic reflectors and to permit sighting of the broadcast point, but this transparency and protection had to be achieved without interference in transmission efficiency or distortion of wave forms. Three sides of the station were glazed with large transparent sheets of corrugated clear panels, six feet high. The sections were corrugated in a deep V-rib design, anchored at top and bottom by angle irons and grouted with cement at the bottom and plaster at the top. *Corkprene* strips were placed between the panel surfaces and grouting materials to act as cushions. Panels were joined by cementing strips of the plastic over inside and outside surfaces of butting edges. This eliminated opaque structural members which might interfere with the high-frequency television signals which the station receives and transmits.

Requirements of this installation resulted in a maximum thickness of $\frac{1}{8}$ in. for the panels, but the formation of the sheets into a V-rib section with 8-in. frequency and 3-in. amplitude permitted ample rigidity despite the thin glazing. Not long after its completion, the installation is reported to have withstood a 60-mile gale which tore a metal door from the relay station but did not damage the nearly 500 sq ft of glazing.

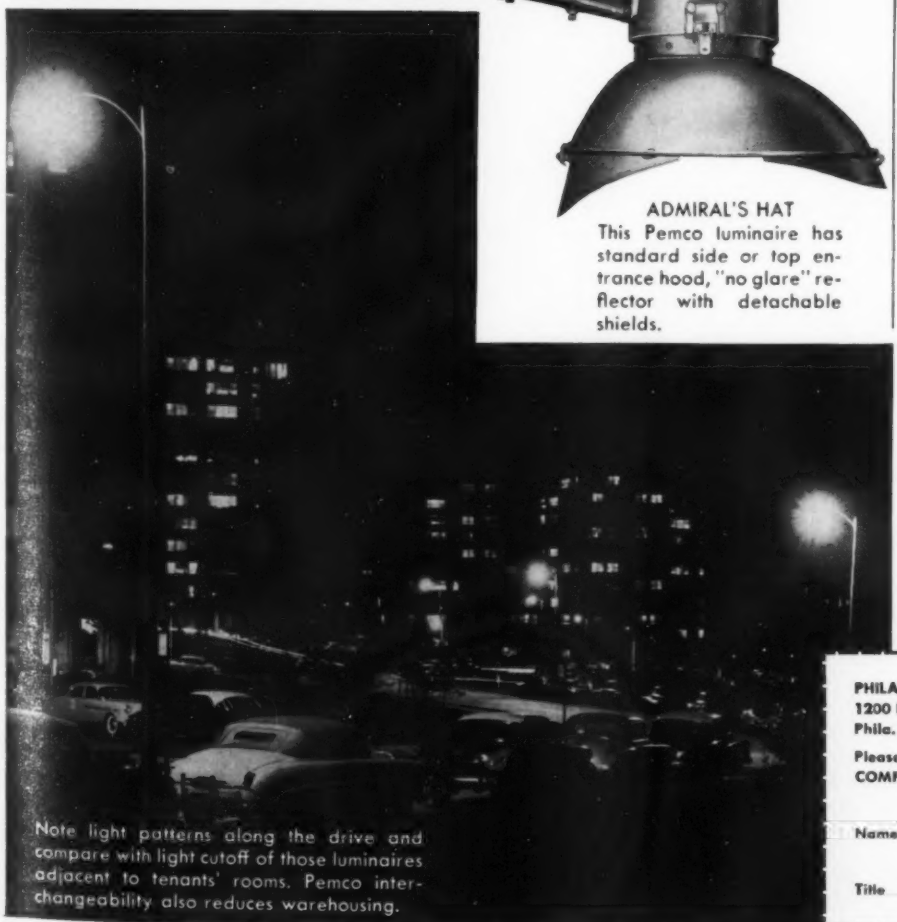
For satisfactory transmission through cast plastic sheets in such installations four conditions are reported to have been found to be important: the thickness of the glazing panels should be no greater than $\frac{1}{10}$ the wave lengths at the frequency involved; the dielectric constant

(Continued on page 228)

CONTROLLED "NO-GLARE" LIGHTING
IS A *Pemco* SPECIALTY



Presidential Apts. select Pemco. Philadelphia's newest development utilizes Pemco's luminaires for beauty and uniformity of design, hoods used interchangeably as needed.



Note light patterns along the drive and compare with light cutoff of those luminaires adjacent to tenants' rooms. Pemco interchangeability also reduces warehousing.



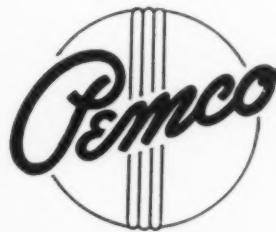
ADMIRAL'S HAT
This Pemco luminaire has standard side or top entrance hood, "no glare" reflector with detachable shields.



Put the light only where you want it. You can with Pemco luminaires, engineered and designed with the experience of 70 years. For the best in modern street lighting, turn to Pemco! Just send in coupon below on your company letterhead for copy of our Lighting Catalog. No obligation!

**PHILADELPHIA
ELECTRICAL &
MFG. CO.**

1200 N. 31st Street
Philadelphia 21, Pa.



PHILA. ELECTRICAL & MFG. CO.
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Phila. 21, Pa.

Please send without obligation a copy of your PEMCO
COMPLETE LIGHTING CATALOG.

Name _____

Title _____

Quality
ALL THE WAY!

APPLETON
MALLEABLE
M-IRON-E
UNILETS

MALLEABLE IRON CONDUIT FITTINGS
APPLETON
OUTLET BOXES AND SWITCH BOXES
ELECTRIC
INDUSTRIAL LIGHTING EQUIPMENT
PRODUCTS
EXPLOSION-PROOF FITTINGS • REELITES

You can be sure that the electrical wiring in the building you design will endure throughout the life of the structure, if you specify Appleton Malleable Iron Unilets on all conduit installations.

Cast, unbreakable, malleable iron makes these fittings stronger, but lighter, and the special Appleton finish insures positive, long-lasting resistance to rust and corrosion. They are available in both threaded and no-thread types.

The complete Appleton line includes every fitting needed for smooth, on-schedule, high quality electrical installation.

On every job, specify Appleton—The Standard for Better Wiring.



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Sales Engineers in All Principal Markets

Architectural Engineering

PRODUCTS

(Continued from page 226)

should be less than four; the loss tangent should not exceed .015; and the angle of incidence should be less than 60 deg. Microwave transmission tests have developed the following values which are expected to be of help in design and installation of electronic equipment:

Polymethyl Methacrylate Cast Sheet Microwave Transmission

Dielectric Constants and Loss Tangents from
One to 10,000 Megacycles

At 27 C (80 F)

Megacycles	Dielectric Constant	Loss Tangent
1	2.76	.0140
10	2.71	.0100
300	2.66	.0062
3000	2.60	.0057
10,000	2.59	.0067

Further information about the new use for the acrylic plastic material may be obtained from Rohm & Haas Co., Washington Square, Philadelphia 5, Pa.

Automatic Ice Maker In Home Refrigerator

The ice tray — that standard feature of the home refrigerator — has now been eliminated in a new *Servel* "Ice Maker" refrigerator which freezes ice cubes, stores them in a basket and automatically replenishes them as they are used. The "cubes" manufactured by the ingenious device are actually half-circles which fit easily into glasses. The new ice maker works as follows: A measured amount of water flows into a semi-circular mold and is frozen. When it freezes, a small electric heater is actuated. This loosens the ice-circles which are then swept out of the mold by ejector arms and held in the freezing compartment at the top of the unit until they "dry." At the same time, more water flows into the mold. With the next cycle, the ejector arms turn again, dropping the ice-circles into the storage basket where they remain dry and loose. The ice in the mold is loosened, ejected and raised to dry, while more water again enters the mold.

(Continued on page 234)

High fidelity...

The CRA grade-mark is your assurance of faithful execution of your plans. When you work in Redwood, specify CRA—for high fidelity in appearance and performance.

Architects: Schweikher & Elting, Roselle, Ill.



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Address requests to plant nearest you.

Architectural Engineering

PRODUCTS

(Continued from page 228)

The entire process continues until the storage basket is filled.

The operation of the unit is controlled automatically by a signal arm which "feels" the ice supply, stops the process when the basket is filled and starts it again when enough ice has been removed



Above: the new refrigerator with automatic ice maker, shown in close-up below



to lower the arm. The entire unit takes up no more room in the freezer compartment than do the customary four ice trays, and, according to the manufacturer, the storage basket has a greater capacity than the trays. Servel Inc., 119 N. Morton Ave., Evansville 20, Ind.

(Continued on page 238)

Go Back to Grade School!

Two winters ago, as part of our leadership in research, The George Washington Grade School, Moline, Illinois, became a Herman Nelson "laboratory school" for a searching investigation into classroom heating and ventilation. Herman Nelson engineers chose this school because it was not only representative of the design of most schools now being built, but also because its classrooms faced to the four points of the compass. Here, then, in one single building, were four widely varying heating and ventilating problems.

Tests were conducted to determine what happens to temperatures under normal occupancy conditions. Every day Herman Nelson engineers took thousands of temperature readings (up to 10,000 a day) using the most advanced and sensitive instruments.

Temperature records showed conclusively that school-rooms need COOLING most of the day far more than they need heating—even in the coldest outside weather. Variations in the number of students per room, the movements of the sun and the velocity of the wind dictate individual heating and ventilation controls for each separate room. It was also confirmed that room air striking cold window glass is the cause of drafts which sweep across the floor creating a serious comfort problem.

Conclusions from these and earlier studies are translated into the modern design of the Herman Nelson DRAFT|STOP system which cools, heats and ventilates

each room according to its needs, as well as traps cold air downdrafts which are created as a result of large window areas.

If you're looking for classroom health and comfort for your children, be sure to investigate Herman Nelson DRAFT|STOP. Write Dept. AR-3, Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky.

George Washington School; Moline, Illinois, utilizes unusual treatment of clerestory lighting through means of corrugated glass for its classrooms. DRAFT|STOP Unit Ventilators were selected by Superintendent of Schools, Alex Jardine; Architect, M. R. Beckstrom.



DRAFT|STOP
TRADE MARK

HERMAN NELSON

SYSTEM OF CLASSROOM
HEATING AND VENTILATING

specify the new miller Lexington

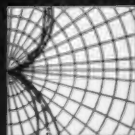


for correct
school lighting

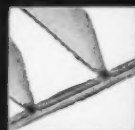
The new Miller LEXINGTON—a distinct advance in school lighting—gives you correct lighting of high efficiency and extremely low brightness—lighting that eliminates eye strain and improves physical well being of students. It provides it at L. O. C. (low overall cost)—through engineering features that make for easier, quicker installation, and materially reduce cost of maintenance, making it more economical over the years. You get more Value for your lighting dollars.

Write for Lexington and L. O. C. Folder

Miller has a complete line of Fluorescent, Mercury and Incandescent luminaires, covering a wide range of industrial and commercial lighting requirements. NATION-WIDE SERVICE is available through Miller field engineers and distributors.



High lighting efficiency—extremely low brightness



Extremely strong, rigid one-piece steel louver assembly



Engineered for easy lamping and servicing



Modern design—architecturally styled for interior harmony

THE miller COMPANY

SINCE 1844

meriden, conn.

Architectural Engineering

PRODUCTS

(Continued from page 231)

Gas- or Oil-Fired Table-Top Boilers

The York-Heat table-top boiler unit first introduced last year will be available this year in both gas- and oil-fired models. The unit, previously available only with oil firing, has already been installed in many building developments throughout the country, including 5000 homes at Levittown, Pa. Two types are available. One, specifically designed for



Table-top boiler units feature white cabinets, can be placed in utility rooms. Gas- or oil-fired models available for hot water or radiant heating

radiant heating, provides space within its white cabinet for all controls, including circulator flow control valve and expansion tank. The other model is designed for hot water heating and is also finished in white. The units are designed for installation in utility rooms or basements. Both models occupy a floor space of 25 by 30 in. and are 36 in. high. Boilers are of diagonal tube design and are built to A.S.M.E. standards. Capacities are 90,000 Btu per hr for home heating and an additional 12,000 Btu per hr for hot water heating. Gas-fired units carry the seal of the A.G.A. Laboratories. York-Shipley, Inc., York, Pa.

(Continued on page 242)



Associated Grocers' Co-op Office Building, Seattle, Washington. First presented to architects and engineers in Architectural Record. Architect: Robert Hugh Ross. Contractor: Morrison Knudsen Co. Photographer: Dearborn-Massar.

systematic circulation development among your *active* prospects with the aid of *Dodge Reports* is reflected in . . .

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FIAT Doors fit standard 24" door
openings. Easy to install on new or
old stall showers of any type—steel,
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beauty—more years of satisfactory
service. When you specify a shower
stall, include the vital, finishing
feature . . . a FIAT DOOR.



Simple design and attractive ap-
pearance at low cost—here's the
fine quality and sound construction
you would expect to find only at a
much higher price. The Neptune
measures 24 by 64 inches and is
reversible for right, or left-hand
hanging; one-piece satin-finished
heavy aluminum frame with
mitered corners and glass set in
rubber channel. Extruded aluminum
jambs, top and bottom suspension
hinges. Bullet catch, offset handles
and water deflector.



Here's unrivaled quality, finest
construction! Standard 24 by 72-
inch size—a full height door with
grille; one-piece chrome plated
frame of extruded brass with
mitered corners; glass set in
rubber channel. Chromium plated
brass jambs and continuous piano
hinge riveted to frame. (FIAT's
moderately priced Zephyr has
the same appearance and fea-
tures as the Dolphin but is made
with satin-finished extruded alu-
minum frame).

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FIAT METAL MANUFACTURING COMPANY
THREE COMPLETE PLANTS—ECONOMY • CONVENIENCE • SERVICE

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(Chicago Suburb)

Los Angeles 43
California

In Canada: Porcelain and Metal Products, Ltd., Orillia, Ontario

Architectural Engineering

PRODUCTS

(Continued from page 238)

Chalkboard Lighting Unit

The *Chalkboard Dean*, a new unit for
illumination of chalkboards in class-
rooms, utilizes an aluminum parabolic
trough reflector and a single row of
fluorescent bulbs to provide evenly dis-
tributed illumination from top to bottom
of the board. The reflector is placed
along the top of the board, extending



Chalkboard light illuminates board and
shields students from disturbing glare

from the wall. The inside is highly pol-
ished and the outside can be painted the
same color as the wall. The size of the
reflector is said to effect an amplification
of bare lamp candlepower by about five
times in the direction of the axis of the
parabola. Scientific angling of the re-
flector is reported to make even distribu-
tion of light possible. Lamp and reflector
are arranged so that direct rays of the
lamp illuminate the top of the board,
while maximum output of the reflector
is directed to the bottom of the board.
Since light comes from two directions,
shadows are said to be eliminated. Tubes
are shielded to 60 deg from classroom
side to prevent undesirable glare. Op-
erating cost is reported to be low. Solar
Light Mfg. Co., 1357 So. Jefferson St.,
Chicago 7, Ill.

Protective Coating for Exterior Panels and Doors

Weathercole #35, a coating to help
prevent warp, swell and check in exterior
paneling, doors, and other natural un-
finished lumber for outdoor use, is a
penetrating substance with a high solid
content plus a small amount of wax. The
coating is said to carry into the wood,

(Continued on page 246)

Products Designed to Cut the Cost of Building... FROM CELLAR TO ROOF!



• Homasote Big Sheets (up to 8' x 14') save time and labor in the sheathing of roofs and exterior walls.



• Nova Wall and Furniture Units—of many types—give more usable space in less total space.



• Nova Roller Doors—for closets and passageways—are installed in less than 30 minutes.



• Wherever you want to keep water in or out, time-tested Homasote waterproofing methods afford lasting protection.

As an ARCHITECT, DESIGNER, or BUILDER—

..... you undoubtedly select building materials and products in terms of (1) the installed cost; (2) the basic value added to the house—for sale or mortgage purposes; (3) the increased beauty of the house.

Every product or material shown on this page was designed and engineered to be measured by these three yardsticks. The development of each of these products is the direct result of our experience in selling building materials for the past 43 years—in continuous contact with thousands of architects, designers and builders. We have been responsible for the construction of many thousands of homes—with maximum speed and sound economy. We have spent more than \$500,000 on pure research, covering problems the average builder and architect have never had the time to explore.

You can profit by buying many products and materials from one dependable source. Moreover, through our representatives, you can draw upon tested methods for designing, scheduling, building and coordinating the erection of any part of the house. The coupon below will bring you details and specification material on all the products here pictured.

A series of articles by Griffith S. Clark of our firm is currently appearing in *American Builder*—dealing with many of the most difficult problems currently encountered—from foundations on a hilly site to the precutting of roof rafters and the most economical use of all materials.



• Nova-Vita Horizontal-Sliding Windows are revolutionary—offer new advantages for every room.



• Homasote Underlayment is nailed directly to the rough flooring. No felt or pad is needed.



• Striated Homasote offers infinite variety of design for attractive interior finishes.



• Sheathe and shingle in one operation with Nova Sidewalls and Roofs. Top quality: maximum economy.

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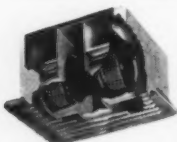
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quality



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100 C.F.M. for bath-
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switch optional.



MODEL 1501
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MODEL 2501
425 C.F.M. for large
kitchens and other
rooms up to 2000 cu. ft.



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lation in cabinet over
range. Hood optional.

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5707 S. Main St., Los Angeles 37, Calif.

Architectural Engineering

PRODUCTS

(Continued from page 242)

creating a moisture barrier and assuring dimensional stability. It is water and moisture repellent and reportedly wears off uniformly so that unsightly discolored areas are eliminated. Stripping and other labor necessitated by uneven wearing are also eliminated when a new coat is to be put on. In a typical application, a minimum of two coats is recommended. The final coat gives the wood a satiny finish and should not be finished over. The coating is available in one, five and 55 gal. containers. Nelsonite Chemical Products, Inc., 900 Monroe Ave., N.W., Grand Rapids 2, Mich.

Storage Rack Attachment for Molded Plywood Chair

Added utility has been afforded the Eames Molded Plywood Chair by the recent introduction of a storage rack especially designed for it. Constructed of welded heavy gage steel wire in a chrome finish, the rack is said to be particularly suited to use in classrooms, theaters, libraries, restaurants, waiting rooms, or any similar area where storage space for hats, parcels, books, etc. is required. Available in min lots of 50, it may be ordered installed on the DCM chair or shipped separately. The Herman Miller Furniture Co., Zeeland, Mich.

Waterproof Drawing Inks

A new line of acetate inks, especially formulated to adhere to plastic, has recently been introduced. Suited to architectural and engineering drawings, the inks are also useful in making permanent records, photographic negative identification, etc. The inks are available in three types: Opaque-Removable (recommended where opaque quality and freedom to make changes are necessary); Opaque-Permanent (reported to become more permanent the longer it adheres); and Transparent-Permanent (which combines transparency of color with permanency). It is claimed that the new inks will adhere to plastic without chipping, rubbing off or crawling, and that they are resistant to alkali, acids and oils. Artone Color Corp., 21 W. Third St., New York, New York.

(Continued on page 248)

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than one floor
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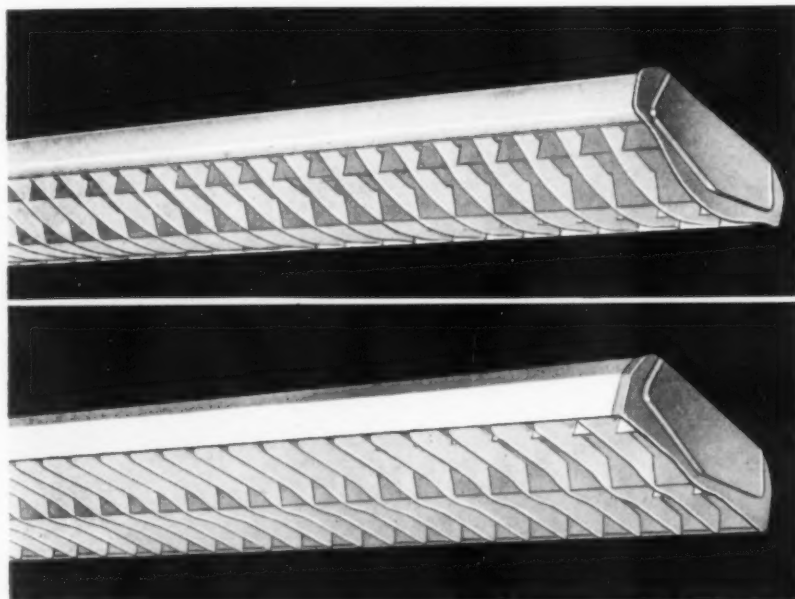
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MITCHELL

fluorescent luminaires

with upward component and **low cost** efficiency

MITCHELL engineering achieves remarkable standards of abundant, glare-free illumination in these new Commercial Luminaires. Important lighting advantages are achieved by the substantial upward component which provides a "general diffuse" lighting effect. The superior louver design delivers properly shielded illumination to the working area. Smooth styling, unusually low maintenance factor and surprisingly low cost make these new MITCHELL Luminaires outstanding values in commercial fluorescent lighting.



the "LODESTAR" luminaires with translucent plastic sides

4-FOOT MODELS: Available in 2 or 4 lamp luminaires, choice of 40-watt medium bi-pin, 40-watt Instant-Start, 40-watt Rapid-Start, 38-watt Slimline.

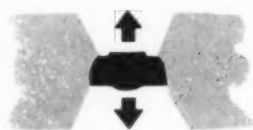
8-FOOT MODELS: Available in 2 lamp 75-watt Slimline; 4 lamp or 8 lamp 75-watt Slimline, 40-watt medium bi-pin, 40-watt Instant-Start, 40-watt Rapid-Start or 38-watt Slimline.

the "ECONOMY" luminaires with metal sides

4-FOOT MODELS: Available in 2 or 4 lamp luminaires, choice of 40-watt medium bi-pin, 40-watt Instant-Start, 40-watt Rapid-Start, 38-watt Slimline.

8-FOOT MODELS: Available in 2 lamp 75-watt Slimline; 4 lamp or 8 lamp 75-watt Slimline, 40-watt medium bi-pin, 40-watt Instant-Start, 40-watt Rapid-Start or 38-watt Slimline.

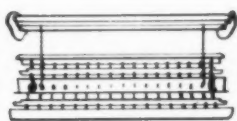
outstanding lighting features and maintenance advantages



These luminaires are of the "General Diffuse" type; approximately half the light goes up to be reflected from ceiling and upper walls to provide comfortable, glare-free, uniform lighting.



New Rapid-Start units offer an unusual advantage: "No starters to replace." Installation of Rapid-Start luminaires slashes maintenance cost by eliminating starter replacement expense.



Two jack chains suspend entire louver and V-spine assembly from fixture body, making relamping easy and substantially reducing maintenance costs. This convenience feature saves time and money.



Sturdy, concealed spring-loaded louver latch instantly releases or engages all-steel louver by snap-in action. Releases with slight pressure of fingers. Simplifies relamping and maintenance.

where quality counts— **SPECIFY MITCHELL**

The superbly engineered MITCHELL "Lodestar" and "Economy" luminaires are built to the most exacting standards for easy time-saving installation, for low-cost maintenance, for dependable long-life performance. Where *quality* with sensible initial cost are important considerations—be *sure*—specify MITCHELL. For complete specifications covering these new luminaires, ask for Bulletins 707 and 708.

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2525 N. Clybourn Ave., Chicago 14, Illinois
In Canada: Mitchell Mfg. Co., Ltd., 19 Waterman Ave., Toronto



Mitchell Manufacturing Company, Dept. 4-C
2525 N. Clybourn Ave., Chicago 14, Illinois

Send full data on MITCHELL
"Lodestar" and "Economy" Luminaires.

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Firm.....

Address.....

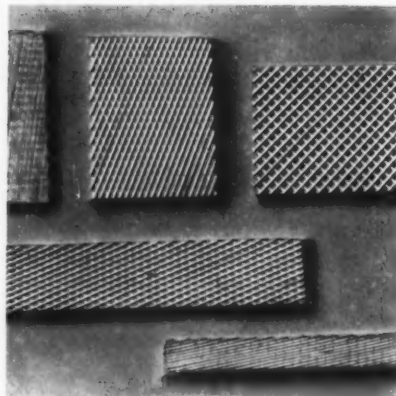
City.....Zone.....State.....

PRODUCTS

(Continued from page 246)

Expansible and Reusable Concrete Forms

A newly introduced concrete form called the *Rubora* form is constructed on a lazy-tongs principle which permits ready adaption of panel size to a wide variety of dimensions. The form can be reused up to 100 times, according to the distributor, who also reports that it has



Above left: forms are compressed when not in use. Above right: after being expanded to desired size, forms are covered with paper before pour. Below: the forms can be curved for forming circular walls

To be sure

**SPECIFY { PLASTI-GLAZE GLAZING COMPOUNDS
PLASTOID PUTTIES**

You avoid risk when you specify PLASTI-GLAZE or PLASTOID glazing materials. Their long-established, high reputation for superiority is based upon proof of their greater durability and ease of application in many of the nation's largest buildings.

WHATEVER THE APPLICATION—steel, aluminum, bronze or wood sash; glazed inside and outside—there is a PLASTOID or PLASTI-GLAZE material that you can specify with complete confidence. By far the strictest laboratory control in the industry is exerted in the development and manufacture of each product.

GOVERNMENT SPECIFICATIONS and the Standard Tests of the Aluminum Window Manufacturers' Association are met by these materials. ANY SPECIAL SPECIFICATION order can be developed in our own laboratory by graduate chemists and produced promptly from our stock of necessary ingredients.

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PLASTOID *ROPE* **PLASTIC**

The New and Better Way of Setting Coping Joints or any other joint that you want water-tight, permanently plastic, stainless and permanently secure. Heavy-bodied oils, pigments and asbestos fiber are formed on a cord into the Rope—easy to apply, fits all sizes and shapes of joints. No caulking or pointing required.

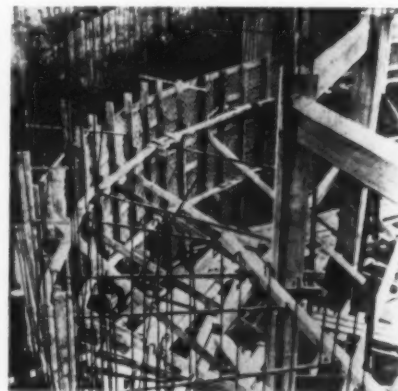


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General Offices & Laboratory: 6459 Georgia Avenue, Detroit 11, Michigan
Factories: Detroit • Chicago • Jersey City • Pacific Plastoid, Oakland, Calif.
Plastoid Products Co., Inc., New Orleans



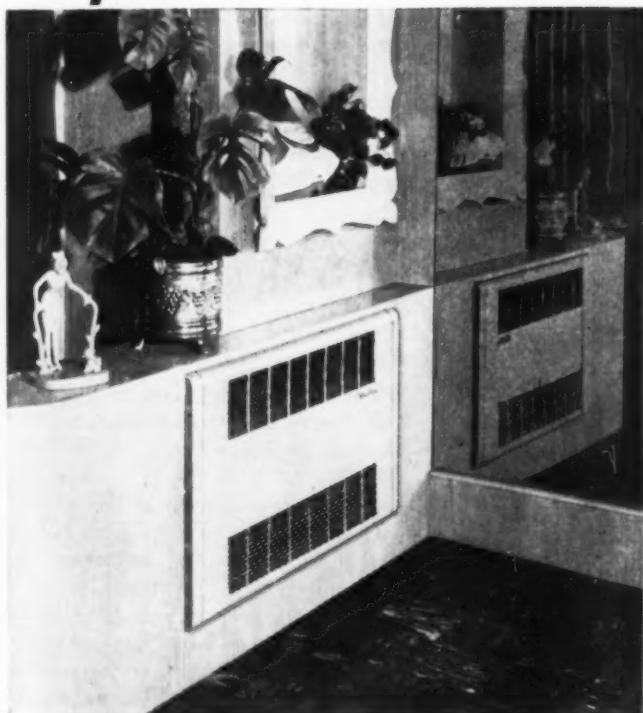
already been extensively used in Europe to cut time and construction costs of cast-in-place concrete work. The form's patented construction consists of wooden struts, latticed together and hinged at the intersection points. After it has been adjusted at the job site to the desired panel dimensions, the form is covered either with building paper, for rough finished work, or with a concrete liner of $\frac{1}{8}$ in. composition board, for a smooth finish. The paper or board reportedly can be easily tacked onto the form and can be stripped off after the concrete has set, leaving the form clean and ready for reuse.

A representative form which is designated as Type A can be expanded to cover an area of 30 sq ft at an initial cost of around \$1 per sq ft. The form can be adjusted to any set of dimensions between 5 ft 8 in. by 1 ft 4 in. and 10 ft 4 in. by 9 in. It weighs only 50 lb and can be carried from the storage point to the job site by one man. Two men can adjust it to the desired size. Individual forms are said to fit together evenly and

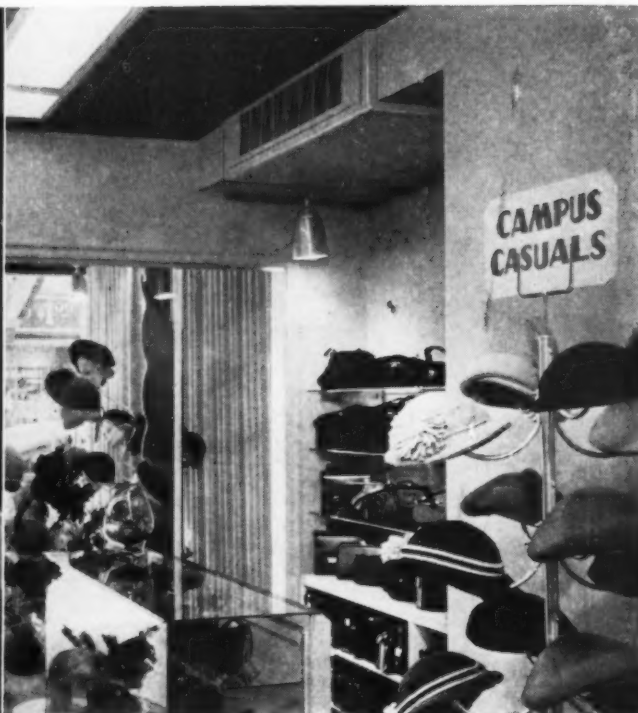
(Continued on page 252)



Yes, **Modine Cabinet Unit gives you ALL 3!**



TYPE FF for heating only. Basic unit designed for exposed or recessed installation. Floor, wall or ceiling mounting.



TYPE BT for heating, cooling (in floor-mounted position), ventilating, with or without ducts. Floor, wall or ceiling mounting.

If you need economical equipment for heating, cooling and ventilating—and the expense of unit ventilators or air conditioners is not warranted—you'll find the perfect answer in Modine's newly expanded line of Cabinet Units.

Here, in a single unit, you can get quick, positive, quiet distribution of heated or cooled air . . . with or without ducts. Inexpensive accessories permit introduction, filtering, heating and distribution of fresh outside air for ventilation.

Whether it's new construction or modernization work—Modine Cabinet Units harmonize perfectly with any interior. You can choose from five different models—some for heating with steam or hot water only . . . others for heating plus cooling with chilled water.

Next time you have a heating application for commercial, institutional or public buildings—check Modine Cabinet Units. They're the low-cost answer to year 'round comfort.

Modine **CABINET UNITS**



Tear out coupon and mail today for your free copy of 28-page, profusely illustrated Bulletin 552. Or see your Modine representative listed in your classified phone book.

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Please send me immediately a free copy of 28-page Bulletin 552, "Modine Cabinet Units."

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Firm.....
Address.....
City..... Zn..... State.....

C-1166



... THEN WE INSTALLED ALGRIP Thus Doubling Production Efficiency And Lowering Big Insurance Costs



In a large Eastern rolling mill, a ramp from the production floor to a storage area above was so slippery from oil and grease drippings that a fork-lift truck could not climb the incline by itself. An unloaded fork-lift truck had to push the loaded one. Already a safety hazard, the slippery ramp also caused production inefficiency.

INCREASED:
Production efficiency
by more than 50%

LOWERED:
Accident insurance
premiums to save
thousands of dollars.

When A.W. ALGRIP Abrasive Rolled Steel Floor Plate was installed on the ramp, skidding stopped, accidents were eliminated, and one truck did the job better than two did before. *Greater production efficiency and lowered insurance rates paid for the ALGRIP installation.* Safe for vehicles as well as men, ALGRIP gives even steep inclines a hard-gripping, anti-skid surface.

In ALGRIP, tough abrasive particles (the same as used in grinding wheels) put hundreds of tiny safety brakes in every footstep—making it virtually impossible to slip. ALGRIP never wears smooth—heavy use only exposes new abrasive particles. The tough rolled steel in ALGRIP makes this floor plate stronger than other abrasive floorings. For safety that pays for itself, get the complete ALGRIP story by writing today for our new Booklet AL-21—without obligation.

At your request, an Alan Wood Steel Company safety engineer will call on you to show you how ALGRIP can be profitably used in your plant to lower insurance rates, raise production, and eliminate accidents.

Over 125 Years of Iron and Steel Making Experience

ALGRIP Abrasive Rolled Steel Floor Plate
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Other Products: A. W. SUPER-DIAMOND Floor Plate • Plates • Sheet • Strip
(Alloy and Special Grades)



Architectural Engineering

PRODUCTS

(Continued from page 248)

to strip off after pouring without requiring the use of crowbars. The forms can be compressed to about one-fourth their maximum area for transportation and storage.

Besides adapting to various sizes, the forms can be curved for forming circular walls. In this way, expenses of constructing circular wood forms can be avoided. Additional savings are provided also, since the crossed beam action of the struts gives additional structural support said to reduce the amount of required shoring by almost 50 per cent. Support spacing for a 4 in. floor, for example, can be as large as 28 in. The forms are furnished in four standard sizes and special sizes can also be supplied. Kurt Orban Co., Inc., 205 E. 42nd St., New York 17, N. Y.

Resin-Free Paint Products

Two new resin-free products, a finish and a sealer, have been marketed by Linseed Oil Products Co. *Liquid Raw-Hide* Marine Spar Finish is an all oil base product and is said to be the only resin-free finish of its kind available. The finish is reported to be equally adaptable to floors, furniture, bar tops, porch decks and indoor or outdoor tables. It dries to a high-gloss film which may, however, be rubbed to a dull finish if desired. According to the manufacturer, a considerable amount of labor can be saved in the application of the finish since it is not necessary to sand between fresh applications. In addition, its oil base is reported to retain elasticity after application.

Liquid Raw-Hide Wood and Plaster Sealer, also resin-free, is reported to contain 62½ per cent solid nonvolatile matter, more, according to the manufacturer, than the average sealer. The product can be used for paint enameling and plaster sealing, as a penetrating floor finish or to convert a flat finish to an egg-shell enamel finish. Drying time is reported to be from two to three hours for dust-free and six to eight hours for a hard-dry finish. Linseed Oil Products Co., 359 Del Monte St., Pasadena 3, Calif.

(Continued on page 256)



Your Clue to Client Satisfaction—

SPECIFY

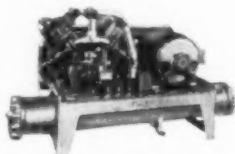
Curtis
AIR CONDITIONING



Package Units—2, 4, 6
and 8 tons



Central Type Air Conditioning
10 to 15 tons



Water Cooled Condensing
Units—through 40 tons



Home Air Conditioners—for
use with warm air furnaces

Right

for fast, easy installation and low-cost, trouble-free maintenance.

Right

workmanship—made by a firm with more than 99 years of successful manufacturing experience.

Right

price to meet—and beat competition.

Right

for the job, whatever the requirements. Curtis units are made in a wide range of types and sizes.

SEE SWEET'S for information on Curtis Air Conditioning and commercial refrigeration equipment.

Write for Your Free Copy of the New Curtis Architects' Air Conditioning Manual. Use your professional letterhead please.

Curtis REFRIGERATING MACHINE DIVISION of Curtis Manufacturing Company 1914 Kienlen Avenue, St. Louis 20, Missouri

**Finest Hi-Hats on the market...
yet competitively priced!**



WHEN YOU'RE PLANNING new recessed lighting, be sure to see Amplex Hi-Hats. Just put one of these lighting units alongside any other and you'll insist on Amplex. It's the best looking fixture on the market...looks best because it is best, in design, construction and finish.

Amplex Hi-Hat has a permanent deluxe satin aluminum finish, inside and out... a rolled flanged edge for extra strength and better ceiling fit. The can is deep-drawn to provide uniform thickness and a smooth surface... plaster ring is keyed for perfect aligning... improved louver is more efficient; won't drop out. And on top of all this, Amplex Hi-Hats are today's best dollar value.

Amplex Hi-Hats, Swivelites and Focalites give you an accent lighting line that meets every display requirement and saves real money. Write for the full story about today's fastest-growing line. **Amplex Corporation, Dept. D-3, 111 Water St., Brooklyn 1, N. Y.**

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlights and Floodlights, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

Architectural Engineering

PRODUCTS

(Continued from page 252)

New Gypsum Wallboard

Panel *Sheetrock* Gypsum Wallboard is a newly developed product which is expected to find wide application for interiors. Each panel of the new board is only 16 in. wide and $\frac{3}{8}$ in. thick, and boards are available in 8, 9 and 10 ft lengths. Application of the panels is said to be as speedy as hanging wallpaper. The board is applied with

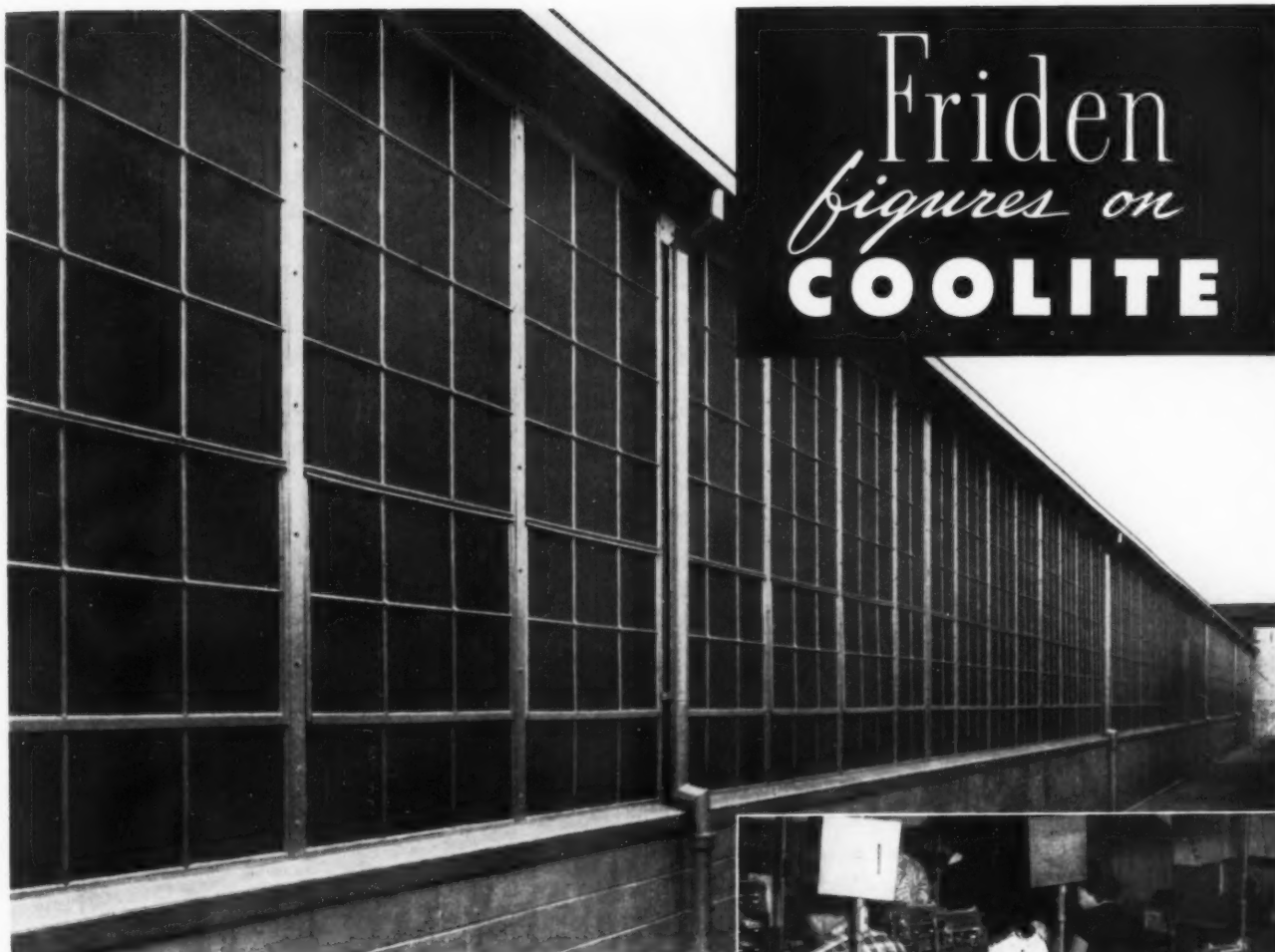


Gypsum wallboard panel is applied to wall surface with special adhesive

an easy-to-mix adhesive over old plaster or wallboard surfaces. In new construction it can be applied over a layer of ordinary gypsum wallboard. Its dimensions are reported to make it easy to maneuver around corners and in narrow places.

The new board requires no joint treatment and, like regular gypsum wallboard, takes any decoration as soon as the adhesive is dry. It is available in plain, knotty pine or Neutraltone Striated finishes. The plain panels may be either painted or papered. Like previous gypsum wallboards, this one also features high fire resistance, strength, resistance to cracking and assurance against warping or buckling. **United States Gypsum Co., 300 W. Adams, Chicago 6, Ill.**

(Continued on page 260)



Friden *figures on* **COOLITE**

Exterior of new Friden Calculator plant, San Leandro, Calif., showing the extensive use of Coolite to provide ample daylight illumination. Architect, Frederick H. Reimers, San Francisco, Calif.

Calculator Manufacturer's New Plant Glazed with 8200 Sq. Ft. of Coolite Glass by Mississippi

Careful assembly operations build into each Friden Calculator the accuracy for which these machines are famous. To help achieve the best possible working conditions, Coolite Heat Absorbing and Glare Reducing Glass was specified in Friden's new plant at San Leandro, California.

Coolite filters out unwanted factors in raw sunlight and helps keep plant interiors cooler and more comfortable. Workers see better, feel better, work better under softly tinted, filtered daylight. Coolite helps fight eye fatigue, boosts employee morale.

MAKE DAYLIGHT HOURS MORE PROFITABLE WITH COOLITE

This amazing "visioneered" glass by Mississippi helps production, reduces rejects. Used either in new construction or in modernization and sash replacement projects, the installation of glare reducing Coolite Glass is an investment in greater production and decreased maintenance costs.



Assembly workers find daylight, diffused and tinted by Coolite is more comfortable. Copious illumination eliminates shadows, helps make seeing more accurate.

Translucent, light diffusing figured and wired glass by Mississippi for better daylight illumination is available in a wide variety of patterns and surface finishes, all scientifically designed to distribute light to best advantage.

Send for free Coolite catalog, "Coolite Heat Absorbing and Glare Reducing Glass." Samples on request.

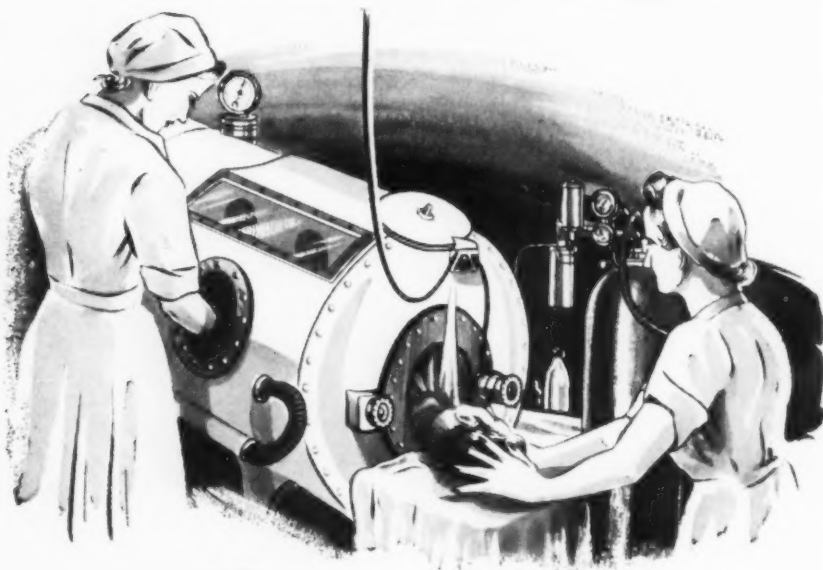


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88 ANGELICA ST. SAINT LOUIS 7, MO.
NEW YORK • CHICAGO • FULLERTON, CALIF.

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WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Where Electricity Must Not Fail!



ONAN *Emergency* Electric Plants Assure Light and Power

Emergency electricity for such essential equipment as "iron lungs," operating room lights, and heating systems is a *vital* need.

This power must be immediately available, it must be dependable, and it must have sufficient capacity to handle *all* essential lighting and electrically operated equipment.

Onan engine-driven emergency electric plants meet all these requirements. When storms, floods, fires or breakdowns interrupt the electric power supply, Onan Standby plants start automatically and feed electricity to critical points. The plants stop automatically when regular power is restored. Will run continuously if necessary.

Onan Emergency Electric Plants are available from 3,000 to 35,000 watts A.C. to meet the needs of any hospital. Where power requirements are greater than 35,000 watts, two or more Onan units can be combined into a system with the required capacity.



MODEL 10 EL
10,000 watts A.C.

ONAN STANDBY PLANTS

Available with exterior housing, like the one shown, or without. All come complete with necessary controls and instruments, ready for installation. Automatic line transfer controls are available for all units.

GASOLINE-POWERED MODELS

Air-cooled: 1,000 to 3,500 watts AC
Water-cooled: 5,000 to 35,000 watts AC

Write for Folder!

D. W. ONAN & SONS INC.



7420 UNIVERSITY AVE. S.E., MINNEAPOLIS 14, MINNESOTA

Architectural Engineering

PRODUCTS

(Continued from page 256)

Special-Purpose Guards For Stud Driver

A series of special-purpose guards for the Model 450 Remington Stud Driver is expected to increase the efficiency of the instrument wherever difficult fastenings must be made to steel or concrete surfaces. The guards are readily attached to the driver and are designed to fit over prefabricated sections such as "Uni-strut," "Wiremold," steel angle and various electrical utility and outlet boxes. Permanent fastenings reportedly can be located accurately and automatically without guesswork. One adjustable type guard for fastening several sizes of conduit strap was estimated by a contractor to have cut installation time on a job from 30 hrs required by previous fastening methods to only 1½ hr. Industrial Sales Div., Remington Arms Co., Inc., Bridgeport 2, Conn.

Incinerators For Homes

A 1953 model *Brulé* M-1 incinerator is now being marketed. New design features cited by the manufacturer include an enlarged refractory-lined charging door, a tougher, fully suspended refractory-lined firechest, added insulation, a redesigned clog-proof burner and automatic gas controls for immediate ignition of wastes. The firechest is lined with a newly developed hard surface insulating refractory tile. The incinerator is reported to be absolutely safe in operation and will not harm children or pets who brush against it accidentally. The ceramic firechest lining is said to retain heat so that temperatures required to consume smoke and odors can be immediately attained. During the burning, the brickwork reportedly assures proper secondary combustion, the rate doubling for each 200 deg rise in fire chamber temperature. The unit is 22 in. wide, 24 in. deep and 41 in. high. It has a capacity of 2¾ bushels, burning at the rate of 40 #/hr. The unit can also be used for schools, offices, shops and other places wherever the requirements are not excessive for its size. *Brulé* Incinerator Corp., 407 S. Dearborn, Chicago 5, Ill.

(Continued on page 264)

IS
THERE AN
"ALL PURPOSE"
FLOOR
COVERING?
...an emphatic



NO! with reasons why from one of the most
successful organizations in the field: the makers of

GOLD SEAL FLOORS AND WALLS

Despite such glib claims and promises as you may hear from time to time, the plain truth is that the "all purpose" floor *simply does not exist*. Nor is it likely to be developed in the foreseeable future.

And the reason is quite obvious: every floor covering situation has its own set of requirements... covering traffic, usage, installation, budget, etc. No *one* material could possibly meet all requirements at all times.

For example, in Gold Seal Nairn Inlaid Linoleum alone, there are *six* distinct categories... each designed to answer a different phase of your particular floor covering problem. This finest of all inlaid linoleums is available in both commercial and standard gauge... in sheet goods and tile... for professional and consumer installation.

If the same long-wearing, resilient and easy-to-maintain linoleum were desired for *installation over ground-level concrete in contact with the ground*... the only possible answer would be Gold Seal Ranchtile... the only linoleum in the world developed, proved and guaranteed for *on-grade* concrete installation.

Should a rich, lasting, luxurious appearance be the prime consideration and cost secondary... there could be no finer installation than one of Gold Seal Rubber Tile, the hands-down style leader.

And so it goes. Each one of the many, many Gold Seal floor and wall coverings is made to meet a specific, different need... to meet it squarely and economically. Each carries the Gold Seal money-back guarantee of satisfaction.

Bring *your* particular problem to Congoleum-Nairn and be assured of straight answers leading to the *one right solution*. Take the first step now by mailing this coupon.

Learn how your requirements can best be filled.

Mail coupon today. No cost. No obligation.

Contract Sales Department
Congoleum-Nairn Inc.
Kearny, New Jersey

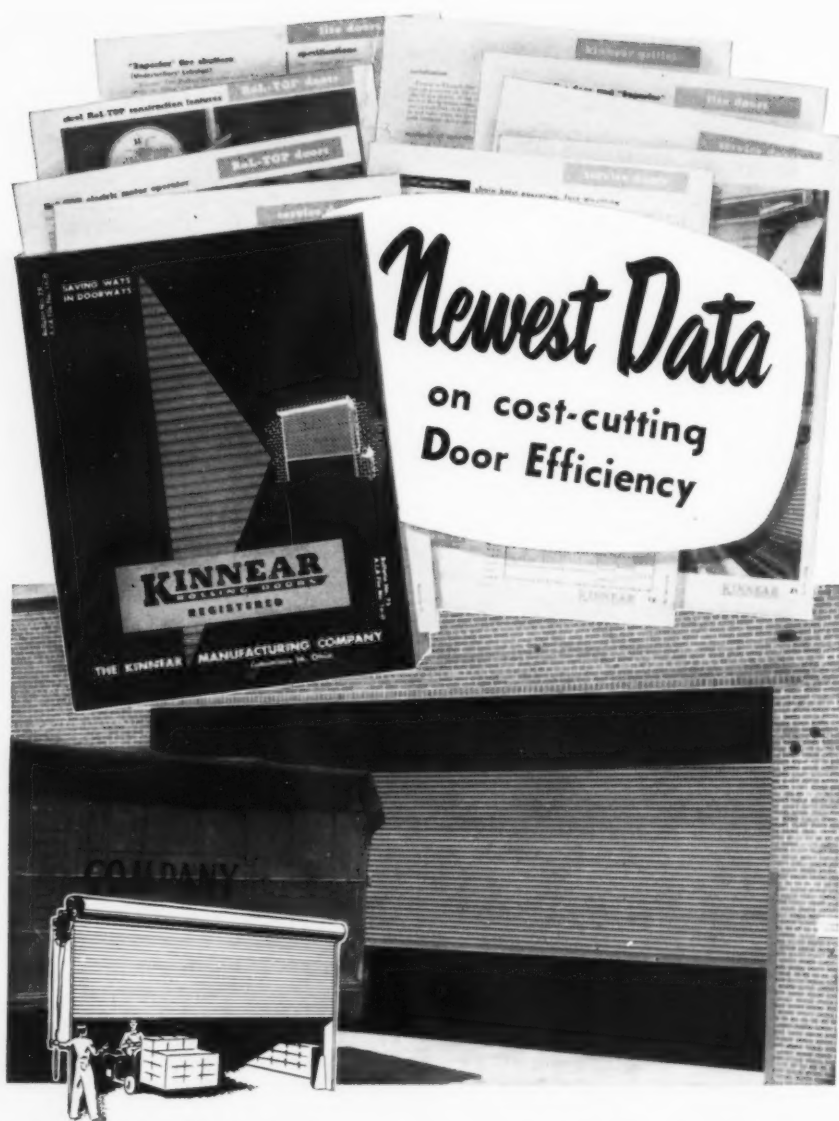
Please send free descriptive literature and specifications on Gold Seal Floors and Walls. I'm particularly interested in a product for

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Address _____
City _____ Zone _____ State _____



GOLD SEAL FLOORS AND WALLS

® CONGOLEUM-NAIRN INC., Kearny, N. J. © 1953



KINNEAR Steel Rolling Doors answer widest range of door needs

This all-new 1953 catalog gives you full, up-to-the-minute information on how to save maximum space, cut costs, boost efficiency and get more protection at doorways, in old or new buildings. In addition to complete data on Kinnear Steel Rolling Doors — the doors with the famous, *Kinnear-originated* curtain of interlocking steel slats — it tells all about Kinnear Steel Rolling Fire Doors, sectional type Kinnear Wood and All-Steel RoL-TOP Doors, and the protective Kinnear Steel Rolling Grilles. Write for your FREE copy TODAY!

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Ohio



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San Francisco 24,
California

Architectural Engineering

PRODUCTS

(Continued from page 260)

Wall-Mounted Water Cooler For Drinking Fountains

Crane is now marketing a self-contained water cooling unit for complete in-the-wall mounting. The unit combines a *Filtrine Wal-Pak* with any Crane drinking fountain. It is designed to save valuable floor space and to enhance the beauty of modern interior design. The

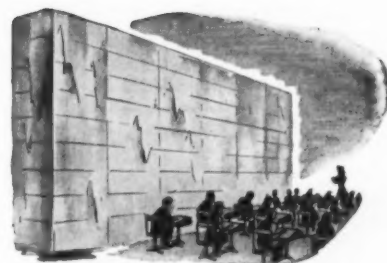


Cooling equipment is recess-mounted below fountain to form combination unit

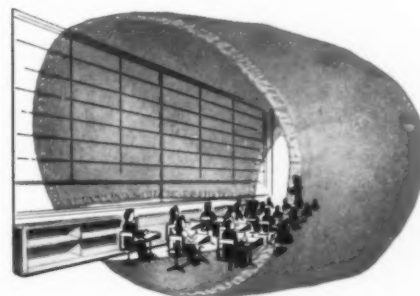
new unit furnishes chilled water without requiring exposed machinery or piping and helps eliminate the problem of uncleanable recesses, since it has only a flush louvered panel in the wall in front of the water source. Described as having many of the advantages of a central chilled water system without the long run of insulated piping necessary in such an installation, the unit is available in models for one or two fountains and is small enough to recess in most building partitions. It reportedly produces ample chilled water for 50 persons per hr per fountain. Installation and maintenance are said to be easy. The louvered front panel gives full access to the cooling unit and compressor, which are factory-packaged on a welded angle-chassis with all electrical and plumbing connections located conveniently for fast installation. Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

(Continued on page 266)

For Positive Protection Against Window Downdraft You Need The Nesbitt Syncretizer—The Only Unit Ventilator That Provides A Continuous Blanket of Warm Air Between Those Cold Surfaces And The Classroom Occupants. Specify The Unit Ventilator That Sets A New Standard of Classroom Comfort



In very cold weather large window areas become a "wall-of-ice" in the classroom.



The Nesbitt "thermal blanket" protects pupils from the cold window downdraft.

MADE AND SOLD BY JOHN J. NESBITT, INC., PHILADELPHIA 36, PA. • SOLD ALSO BY AMERICAN BLOWER CORP.

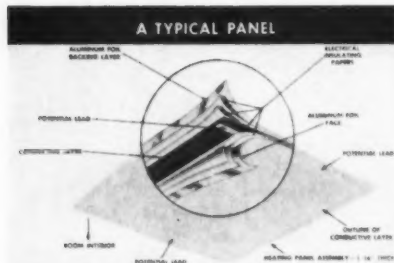


PRODUCTS

(Continued from page 264)

Rubber Ceiling Panels for Electrical Radiant Heat

Uskon panels, a new development from United States Rubber Company, are electrical radiant heating units which may be cemented to ceilings like wallpaper. Only $\frac{1}{16}$ in. thick, the panels con-



Cutaway diagram at left illustrates components of the new radiant heating panels. Installation, shown at right, consists of pasting panels to ceilings like wallpaper



ARCHITECT—Permalite/concrete takes the handcuffs off the architect with its light weight— $\frac{1}{7}$ to $\frac{1}{2}$ the weight of conventional concrete. Freed from this dead load, the architect has greater freedom in designing for required strength with minimum steel requirements.



TENANT—Tenants may not know why, but they're more comfortable in a Permalite/concrete building, because of the added insulation and sound-proofing afforded by Permalite/concrete over conventional concrete—quieter offices, more even room temperatures.

BUILDER—Permalite/concrete takes a lot of weight off the builder's mind, too. Lighter, it's easier and quicker to handle, speeds construction. Advantages over other aggregates in the same weight class—uses less water, shrinks less on drying, resists thawing and freezing, has lower absorption.



Everybody Benefits WITH Permalite

— AS THE AGGREGATE IN CONCRETE, FOR INSTANCE

BUILDING OWNER—Permalite/concrete gives him more usable building space. The steel structure can be lighter and the curtain and partition walls can be thinner, and still meet fire-resistance requirements. He gets more rentable floor space and, if necessary, more floors on the same foundation. Easier to heat, too.



To get the full story on Permalite's many advantages, send today for your free bulletin on Permalite, the largest-selling perlite aggregate in the world. Write Great Lakes Carbon Corporation, Dept. H-342-612 So. Flower St., Los Angeles 17.

Dependable GREAT LAKES
Permalite
THE LARGEST-SELLING PERLITE AGGREGATE IN THE WORLD

PROCESSED FROM SOCORRO PERLITE
ONLY BY THESE EXCLUSIVE PERMALITE
LICENSEES OF GREAT LAKES CARBON CORPORATION

Indoken Perlite Company
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Perlite Products Corp.
Dallas, Texas

Perma-Rock Products, Inc.
Baltimore 30, Maryland

William J. McCormack Sand Co., Inc.
New York, New York

Pennsylvania Perlite Corp.
Allentown, Pennsylvania

West Indies Perlite Mfg. Co., Inc.
Havana, Cuba

Airlite Processing Corp. of Fla.
Scottsburg, Indiana

New Jersey Perlite Corp.
Newark, New Jersey

The Whittemore Company
Roslindale 31, Mass.

MacArthur Company
St. Paul 4, Minn.

McClure & Erickson Corp.
Los Angeles, California

Virginia Perlite Corp.
Hopewell, Virginia

sist of a sheet of conductive rubber (the heating unit) sandwiched between layers of thin plastic insulating sheets and aluminum foil (see illustration). They weigh only 6 ounces per sq ft and are bonded to ceilings of plaster, "Sheet-rock," or other smooth materials with a special adhesive. Usually, the panels do not cover the entire ceiling of a room, although the number of panels required is determined by climate, insulation and other factors.

Described as particularly useful for homeowners who add a new room or who want to supplement existing heat in dens, expansion attics, garages and similar locations, the panels can provide complete radiant heating for an entire house or for a single room. Where electricity is available for $1\frac{1}{2}$ cents per kwh or less, cost of operation is said to be comparable with that of other fuels. Panels are available in three sizes, 4 by 6 ft, 4 by 4 ft, and 3 by 4 ft. They are rated at 22 w per sq ft (75 Btu) and are available for either 115 or 230 v. After they are installed, the panels can be painted with conventional flat interior paints to match the decorative scheme of a room. Individual room heating can be operated by thermostatic control, if desired.

Among advantages cited by the manufacturer are increased living space in rooms (since walls and floors are left completely free), avoidance of excessively dry air, elimination of fuel soot, fumes and most dust, uniformity of heat and avoidance of drafts.

Besides the panel described above, the manufacturer also supplies a "Type B" panel primarily for new construction. This is essentially the same, but is already mounted on asbestos board, the entire panel being $\frac{1}{4}$ in. thick. Both types are approved by Underwriters' Laboratories. Uskon Dept., Mechanical Goods Div., U. S. Rubber Co., Rockefeller Center, New York 20, N. Y.

(Continued on page 270)

Schoolrooms built while you wait!

... and you don't wait more than a few seconds either when you use "Modernfold" doors. Note how this Junior High School does it. When there's a need for another small, private schoolroom, the "Modernfold" movable walls fold quietly

together to separate library from lecture room.

And when it's necessary to get a large group together, the "Modernfold" doors quickly fold all the way back against both walls to form one huge classroom.



Your ideas come to life... for life with "MODERNFOLD" doors

For every room division or door closure problem, there's a simple, economical, space-saving solution. That's "Modernfold," the original folding door.

Specifying "Modernfold" doors keeps clients happy. For these steel-framed, vinyl-covered doors can't be equalled *anywhere* for quality of design... for quality and strength of materials.

And because this line is *complete*, you're sure to save time and get exactly what you want when you specify better looking, easier operating, longer lasting "Modernfold" doors.

Sold and Serviced Nationally

NEW CASTLE PRODUCTS, NEW CASTLE, INDIANA

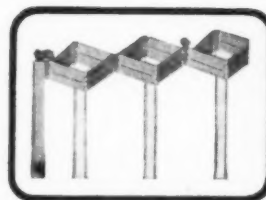
In Canada:

Modernfold Doors, 1315 Greene Avenue, Montreal



Better Looking

Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



Longer Lasting

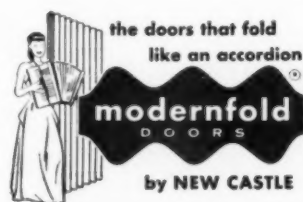
Balanced hinge construction both top and bottom. Trolleys attached at hinge intersections. No sidewise twist or pull.



Better Background

Over 100,000 "Modernfold" doors now in operation—a backlog of space engineering experience that's your guarantee of satisfaction.

YOU CAN'T GET MORE IN A FOLDING DOOR



New Castle Products
Box No. 528
New Castle, Indiana

Please send full details on "Modernfold" doors.

Name.....

Address.....

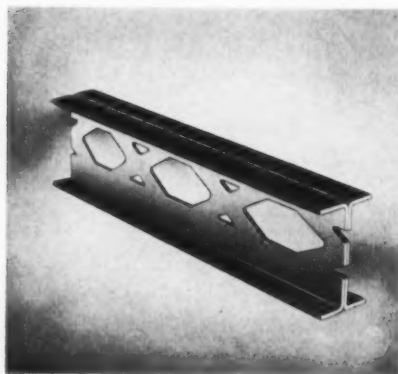
City.....County.....State.....

PRODUCTS

(Continued from page 266)

Steel Construction For Smaller Buildings

A new line of cold rolled steel structural sections, *Lightsteel*, is said to permit for the first time the use of steel framework at low cost in the light building field. The sections include a complete range of studs, joists and acces-



Lightweight open web steel sections, left, are designed for construction of small buildings, such as that at right

***Imported CASTELL**
lays it on the
LINE!

Is this your idea, too, of the perfect drawing pencil?

The Masters who conceive and create America's greatest architectural, engineering and industrial achievements agree that Imported CASTELL is the standard of the world, because—

- CASTELL lead is smoother—has no hard spots.
- CASTELL is graphite-saturated for greater adhesion.
- CASTELL lays down a more opaque line for better blue and white prints.
- CASTELL points are stronger—less breaking under pressure.
- CASTELL is non-bleeding—gives sharp, clean prints after hundreds of trips through the reproducing machine.
- Although CASTELL is a premium pencil, it is more economical in the long run, giving 25% to 33 1/3% more wear.

Let CASTELL lay it on the line for you, too. Order from your own dealer. Recognize it by its beautiful "CASTELL green" polish.

9400 Push Button CASTELL LOCKTITE Holder

9030 Imported CASTELL Lead—7B to 9H—with the same unique qualities that made CASTELL 9000 wood-encased pencil famous.

the drawing pencil with the Master Degrees

AW. FABER-CASTELL
PENCIL COMPANY INC. NEWARK, N.J.

sories for the erection of steel building frameworks, and are described as ideal for the construction of single and multiple residences, schools, industrial and commercial structures. The sections are fabricated from strip steel and have a double-trussed, open web design which makes possible light weight without sacrificing strength. This open web also simplifies the passage of wiring and piping through the erected studs and joists. Workmen can quickly fasten wires or clips through the openings and it is not necessary to drill the studs and joists in the field.

The sections are intended for custom design and construction and reportedly eliminate design restrictions imposed by prefabrication. At present, the line includes sections 3 1/4, 3 5/8, 4, 6 and 8 in. deep. These are precut to order in lengths up to 28 ft. Studs and joists are available in single and double form. The single stud or joist is a channel, while the double unit, manufactured by welding two single units back-to-back, resembles an I-beam in cross section. Supplementary structural track and bridging for use as top and bottom plates, bracing, sills, etc., are also being produced. These sections are similar in appearance and other characteristics to the studs and joists, but the track sections are slightly oversize to fit around the standard sections, and the bridging is slightly undersize to fit within the flanges of the standard sections.

The manufacturer describes the new sections as being easy to handle as wood or masonry construction. As for cost, he also reports that in some areas his 3 1/4 in. stud is lower in price than a wood 2 by 4. Penn Metal Co., Inc., 205 E. 42nd St., New York 17, N. Y.

(Continued on page 274)



"Inch-Marked®" lengths, an ELECTRUNITE exclusive, permit fast, accurate bends on the job or in the shop.



Easy to install in narrow spaces between pans. No exposed threads to rust.



The 11820 Edgewater Drive Apartments, Lakewood, (Cleveland district) Ohio; 230 suites; 10-story reinforced concrete construction. Owners: Lakeview Apartments, Inc., Cleveland, Ohio Architects: Weinberg & Teare, Cleveland, Ohio General Contractors: District Construction Co., Washington, D. C. Electrical Contractors: Polacek Electric Co., Cleveland, Ohio

Easy to install *right*
on concrete pan jobs...

REPUBLIC ELECTRUNIT

The "INCH-MARKED®" E. M. T.

Republic ELECTRUNIT E.M.T. is easily bent to fit into the narrow spaces between pans. Journeymen can connect and tighten whole runs of ELECTRUNIT E.M.T. without turning the tube . . . many available types of couplings and connectors make concrete-tight joints easily using only simple tools.

This light-and-strong steel raceway material has another big advantage for concrete construction. It is unnecessary to use special concrete boxes when installing ELECTRUNIT E.M.T. . . . the tube is quickly attached to the boxes after they are spotted on the forms, as in the bottom photograph.

For *all* your jobs, concrete, exposed, or concealed, where "E.M.T." or "light-wall" meets the code, specify Republic ELECTRUNIT E.M.T.

STEEL AND TUBES DIVISION

REPUBLIC STEEL CORPORATION

201 EAST 131st STREET • CLEVELAND 8, OHIO

Republic
ELECTRUNITE E.M.T.



PRODUCTS

(Continued from page 270)

**Miniature Circuit Breaker
For Standard Fuseholders**

Reported to be the only one of its kind to meet all essential design, safety and performance requirements established by Underwriters' Laboratories, Inc., *Mini-Breaker* is a new permanent type circuit protective device that fits like a fuse into any standard Edison

base fuseholder delivering up to 125 v A.C. service. The device requires no additional equipment and no special wiring when applied to branch or main circuits of corresponding 15, 20 or 30 amp ratings. It can be easily and quickly installed and permits electrical service to be restored by anyone with a simple press and release of its shock-proof reset button.

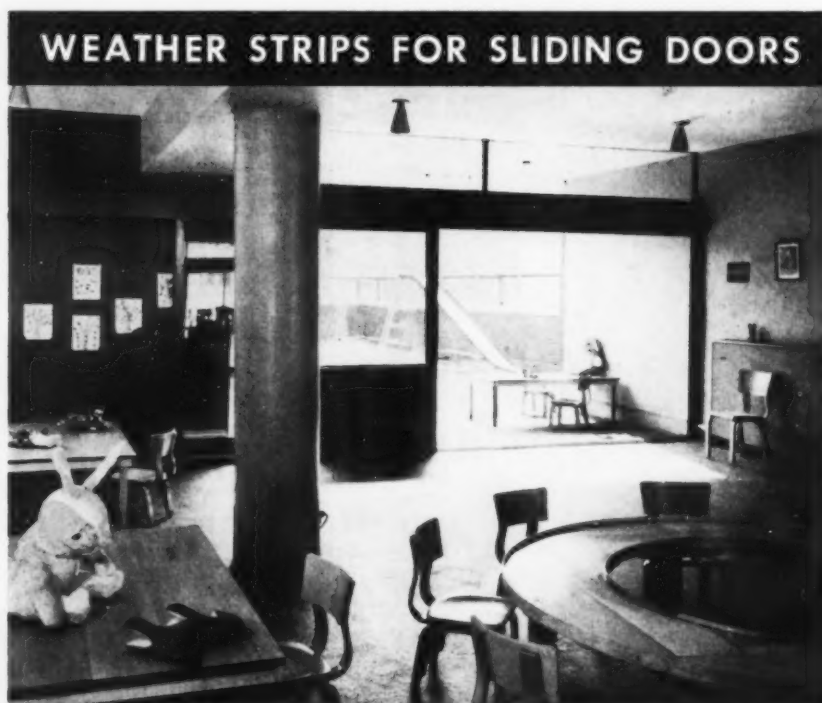
The thermally-actuated device consists of 25 parts self-enclosed within a special tamper-proof insulating case. In operation, it is reported to safely

interrupt excessive overloads and short circuits, tripping instantly in case of the latter. It also has a built-in time lag, however, to handle temporary starting loads and line surges. Although service can be restored normally within 10 seconds after an interruption, the device reportedly will not maintain a circuit that has not been cleared of the condition which caused the interruption, and any attempt to reset it against an overload or "short" only results in increasing the speed of tripping.

Although it is designed primarily for direct fuse replacement in existing residential, commercial and industrial circuits, the device may also be employed as original circuit protective equipment in new buildings and on a wide range of machines and appliances. It is being produced in 15, 20 and 30 amp ratings for A.C. service to 125 v max. Mechanical Products, Inc., 1824 River St., Jackson, Mich.

Tile Flooring

A new line of Gold Seal VinylTile called *Bermuda Hues* has recently been added to Congoleum-Nairn's extensive line of floor coverings. There is a choice of eight colors, which may be used alone or in combination with any of the others, since each color has been correlated to blend with all others. Each tile, which is 9 in. square, has a striated appearance—lending texture and blending harmoniously with fabrics, furniture woods and wall coverings. The tile, which has a non-porous and soil-resistant surface, is described as easily maintained and well suited to contemporary living. Congoleum-Nairn Inc., Kearny, N. J.

**For Better Weather Protection****THESE SLIDING DOORS ARE FITTED
WITH "ACCURATE" WEATHER STRIPPING**

This view of the Indoor Play Deck at St. Barnabas House in New York City, Ketchan, Giná & Sharp, Architects, shows how Sliding Glass Doors open this play space into outdoor deck beyond. The Sliding Doors operate smoothly, with minimum effort, due to "Accurate" saddles and sheaves—and they are *weather proof*. No snow, no rain, no wind or dust can enter when doors are closed.



For doors and windows of all types, "Accurate" Metal Weather Strip is unsurpassed. Write for working drawings, or if you prefer

ASK FOR ILLUSTRATED FOLDER

ACCURATE METAL WEATHER STRIP CO., Inc.

215 EAST 26th STREET, NEW YORK 10, N. Y.

• R. K. Stem of the firm of Chester B. Stem, Inc., New Albany, Ind., has been elected president of the American Walnut Manufacturers Association. Other new officers include: vice president, Louis Vonderbrink of Cincinnati; treasurer, R. E. Hollowell, Jr. of Indianapolis; secretary-manager, Burdett Green; assistant secretary, Charles H. White; industry forester, W. C. Finley.

• Gerald F. Prange, a specialist in developing new uses for low-grade oak planking, has been added to the Technical Department staff of the National Lumber Manufacturers Association. He was previously employed in the Washington, D. C. laboratory of the Timber Engineering Company, an affiliate of the Association.



In Akron's largest, modern shopping center, Janitrol assures lower cost, automatic winter comfort



Eastgate Shopping Center—13 retail stores—68 Gas-Fired Janitrol Unit Heaters—Architect, E. Vance Florence, A.I.A. General Contractor, Roltmayer Construction Company; Unit Heaters, R. A. McConnell, Inc.

There were many advantages in the specifying of unit heaters and particularly the selection of Janitrol equipment for Akron's largest shopping center.

Consider these basic advantages in planning heating for your commercial, public or industrial buildings:

Lower initial installation cost.

Completely automatic operation requiring no "Janitor" service.

Each store adjusts temperatures to meet own requirements and store operating hours.

Each tenant pays his own fuel heating bills.

No useful floor space is required to locate units and direct heat where it is most needed.

Why Specify Janitrol Gas-Fired Unit Heaters?

Janitrol combines more advanced performance features. Janitrol's unique design provides compactness with greater efficiency and proved longer life with exclusive, extra safety protection.

Janitrol field representatives and the dealer organization are trained in heating layouts and proper installation methods to assure all the benefits and economies of gas—the clean modern fuel. They will gladly consult with you on any heating problem.

Write for complete A.I.A. File 30-C-43 for installation and specification information.

There's a size and type of Unit Heater for every purpose—for natural, manufactured or LP-Gases.



Suspended Units



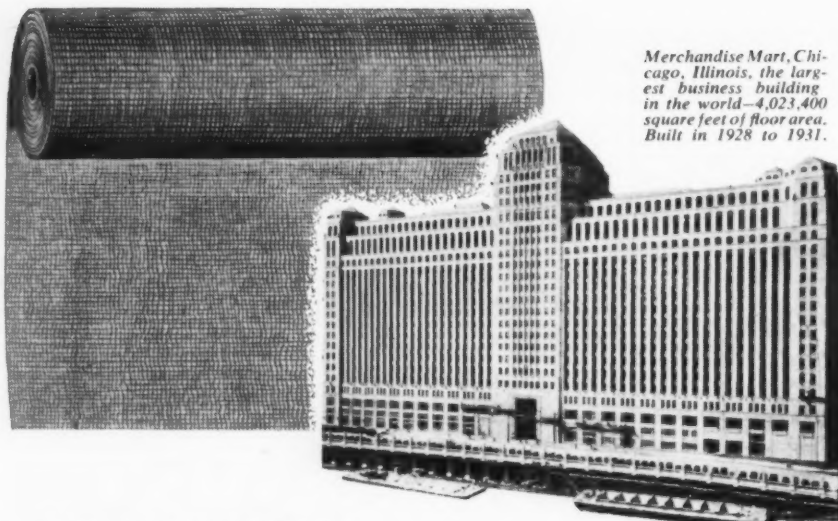
Duct Units



Floor Models

Janitrol
GAS-FIRED UNIT HEATERS

SURFACE COMBUSTION CORPORATION • TOLEDO 1, OHIO



Merchandise Mart, Chicago, Illinois, the largest business building in the world—4,023,400 square feet of floor area. Built in 1928 to 1931.

CHICAGO'S FAMOUS
MERCHANDISE MART
CALLED FOR

Karnak®

WATERPROOFING PRODUCTS



Karnak fabric is packed in sturdy, corrugated cartons for protected shipping and storage. They keep the fabric in perfect condition until used... cut fabric loss.

Twenty-five years ago, the problem of protecting the foundation of the "Mart" from hydrostatic head was answered with Karnak. Even though the big Chicago River flows beside it, this Karnak job holds secure.

Why was Karnak chosen? Because it is the membrane system of waterproofing that holds tight against any water condition.

Karnak is an open mesh long-fibre cotton cloth that has been heavily impregnated with highly refined asphalt so as to leave the mesh open. It is layered, on the job, with alternate moppings of asphalt to provide a tough, resilient, waterproof membrane. The non-sticking fabric unrolls easily... to the very end. It "works" faster and with no waste... saves labor costs.

The Karnak Membrane System is best for roof patching, skylight flashing, window and door flashing, through-wall and cornice flashing, as well as waterproofing against a hydrostatic head in dams, swimming pools, viaducts and tunnels. Send coupon for complete information. Manufactured by Lewis Asphalt Engineering Corp., 30 Church Street, New York 7, N. Y.



OTHER KARNAK PRODUCTS

Asphalt Roof Coatings
and Cements
Caulking Compounds

Asphalt Emulsions
Tile Cement
Asphalt Paint

Aluminum Roof Coating
Wood Block Mastic
Joint Filler

LEWIS ASPHALT ENGINEERING CORP.

30 Church St., New York 7, N. Y.

Please send me **FREE** information about KARNAK Membrane System of Waterproofing

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Other items I'd like to know about _____

Architectural Engineering

LITERATURE

(Continued from page 198)

and miscellaneous information. Temperature conversion formulas, decimal equivalents and electrical unit equivalents are among the miscellaneous data included. 28 pp., illus. C. A. Dunham Co., 400 W. Madison St., Chicago 6, Ill.

Wall Tubing For Radiant Heat

Aron Radiantweld Solid Wall Steel Tubing. Brochure gives information on qualities, installation advantages and other characteristics of the manufacturer's steel tubing. Suggestions on the use and application of the tubing in new construction is given, with pointers on design practice. A typical ceiling plan of an installation is also included, along with photographs of various sections of the unit. Specifications are furnished, with diagrammatic sketches of ceiling, wall and floor installations. 6 pp., illus. Avon Tube Div., Higbie Mfg. Co., Rochester, Mich.

Constant Temperature Equipment

Cenco Constant Temperature Equipment, Bulletin 5B. Catalog of the manufacturer's equipment for constant temperature control includes information about ovens, incubators, water heaters and thermoregulators. Includes details of construction and operation. 43 pp., illus. Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.

Air Conditioning Outlets

Facts on Airfoil Air Conditioning Outlets. Brochure of manufacturer's air conditioning outlets includes information on construction, performance, selection and specification. Directional outlets (both two-way and four-way control). Volume controllers and return air grills are described and illustrated. 4 pp., illus. Titus Mfg. Corp., Waterloo, Iowa.

Organ Installation

The Architectural Planning of an Organ Installation. Booklet contains valuable information on the installation of an organ in church or auditorium, presenting data on acoustics, power, re-

(Continued on page 282)

HERE'S YOUR PROOF OF . . . DRAVO *Counterflo* HEATER VERSATILITY!

DRAVO "Counterflo" HEATER CASE STUDY REPORT

SCHOOL
Saves 30% By Building School "Around" Dravo "Counterflo" Heaters

Client: HILLSBOROUGH SCHOOL
Location: SOMERSET COUNTY, NEW JERSEY

HEATER	FUEL	OUTPUT (Btu)
1	HEAVY OIL	1,750,000 each

Dravo "Counterflo" Heaters are used at time of case study.

Comfort space heating and ventilating for entire building, including use of Dravo "Counterflo" Heaters during occupancy and recirculated air when not occupied.

for COMFORT HEATING ENTIRE SCHOOLS

at installation cost 30% less than building the school around Dravo "Counterflo" heating and ventilating system.

DRAVO "Counterflo" HEATER CASE STUDY REPORT

EXPOSITION BUILDING
Dravo Heaters are Feature Attraction at Exposition

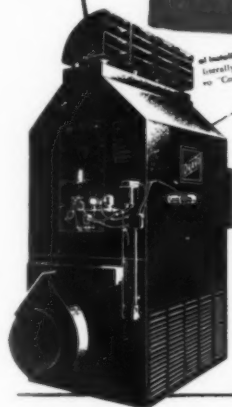
Client: TEXAS COUNTY COLLEGE
Location: SAN ANTONIO, TEXAS

HEATER	FUEL	OUTPUT (Btu)
10	GAS	\$30,000 each

Dravo "Counterflo" Heaters are used at time of case study.

Features of Heaters: To deliver warm air through nearly 6000 ducts and 25 ducts to be built 10,000,000 Btu.

for COMFORT HEATING LARGE AUDITORIUMS



**get these
FREE case
studies now!**

DRAVO HEATERS OFFER YOU:

- LOW INITIAL COST**—Users report 30% to 60% savings over "wet-type" systems.
- EASY INSTALLATION**—Need only fuel, exhaust and electrical connections . . . no ductwork.
- LOW OPERATING COST**—Direct-fired . . . burn gas or oil . . . readily converted . . . minimum efficiency 80%.
- AUTOMATIC OPERATION**—On-off or modulating controls . . . no constant attention needed.
- LONG SERVICE LIFE, LOW MAINTENANCE**—Stainless steel combustion chamber eliminates refractory lining.
- SAFETY**—Approved by American Gas Association, listed by Underwriters' Laboratories, Inc.; Dravo standardized safety control circuit accepted by Factory Mutual Engineering Division.
- MOBILITY**—Can be moved to any location.
- FLEXIBILITY**—When floor space is limited, can be wall-hung or suspended from trusses in any position.

DRAVO

C O R P O R A T I O N

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CLEVELAND • DETROIT • NEW YORK • ST. LOUIS • PHILADELPHIA
WASHINGTON

Sales Representatives in Principal Cities

Manufactured and sold in Canada by Marine Industries, Ltd., Sorel, Quebec. Export Associates: Lynch, Wilde & Co., Washington 9, D.C.

Detailed information and photographs show how Dravo *Counterflo* Space Heaters can heat large open spaces such as field houses, cafeterias, auditoriums, gymnasiums and manual training shops . . . and can be adapted to heat entire school buildings . . . comfortably, quickly and efficiently. These case studies give you proof of Dravo Heater versatility, and they're yours for the asking.

DRAVO HEATERS SOLVE HEATING PROBLEMS IN THESE INSTALLATIONS, TOO:

- **TEMPORARY HEATING**—where comfort heat is necessary during building construction or to keep ground temperature above freezing in winter.
- **TEMPERING MAKE-UP AIR**—where removal of noxious fumes makes comfort heating normally difficult.
- **PROCESS DRYING AND HEAT CURING**—where moisture content must be controlled or removed from air, and temperature regulated to meet production needs.

FOR FREE CASE STUDIES OF INTEREST TO YOU MAIL THIS COUPON TODAY . . .

(Case Study sheets are 8½" x 11", punched for binder or convenient filing.)

HEATING DEPARTMENT, DRAVO CORPORATION
Dravo Building, Fifth and Liberty Avenues
Pittsburgh 22, Pa.



Please send me the following case studies FREE:

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| <input type="checkbox"/> Space heating auditoriums, etc. | <input type="checkbox"/> Temporary heating |
| <input type="checkbox"/> Space heating schools | <input type="checkbox"/> Tempering make-up air |
| <input type="checkbox"/> Space heating large buildings, stores, etc. | <input type="checkbox"/> Process drying and heat curing |
| <input type="checkbox"/> Please have a representative call. | |

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Company _____

Address _____

City _____ Zone _____ State _____

When writing ask for Bulletin LM-523-8091

Another Globe Elevator!



Wright-Burton's OilIFT Elevator operates through hold-in push button control. Car measures 4' x 5' and has a capacity of 2,000 pounds.



Elevator travels from basement to third floor (31'5") at 25 feet per minute. Ascent is powered by an oil-operated cylinder. Descent is by gravity controlled through the hydraulic mechanism.

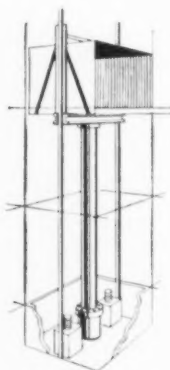


Night View of Wright-Burton Hardware Company's attractive store.

● The Wright-Burton Hardware Company, Arkansas City, installed their Globe OilIFT Elevator in 1949. Recently, W. E. Burton put his enthusiasm into writing:

"We certainly are pleased to tell you that we have had as near perfect satisfaction out of this elevator as I believe it is possible to obtain from any piece of equipment. Since its installation it has been in daily use and required absolutely no service of any kind."

That's typical of comments from owners of Globe OilIFT Elevators. They are known as America's most economical elevators to install, operate, and maintain for apartments, factories, hospitals, plants, stores, warehouses. Globe OilIFT Elevators are assembled to meet your specifications. Send today for the new Globe Elevator Catalog AR-516.



The OilIFT principle eliminates expensive penthouse construction and load-bearing shaftway walls.

GLOBE

THE BEST LIFT

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa and Philadelphia, Pa.)

Architectural Engineering

LITERATURE

(Continued from page 278)

verberation, use of tone chambers, sound distribution and other useful information. Various types of installations are described with the aid of floor plans and specifications. 15 pp., illus. Organ Div., The Baldwin Piano Co., Cincinnati 2, Ohio.

Kitchen Planning

Two new brochures are available on kitchen planning — one on custom-built kitchens and the other on mass-produced kitchens.

Porta-Bilt Planned Custom Kitchens. Attractively illustrated booklet contains many planning ideas using *Mutschler* kitchen furniture, and is divided into three sections which include (1) cleaning and preparation, (2) cooking and serving and (3) preparation and storage. A list of normal equipment for each area accompanies each section, and is designed to aid the planner in providing adequate space for each article. Various types of custom appointments are described, and the brochure has many photographs — in color and black and white. 18 pp., illus. Celia Endore, Custom Hardwood Kitchens, 239 Lexington Ave., New York 16, N. Y.

Mengel Royal-Wood Kitchens. Brochure presents the manufacturer's complete line of kitchen cabinets, showing the flexibility of the units. Available tops are illustrated in color and sections of the cabinets are shown in detailed drawings. An example of cabinet installation is included, and various available sizes of the different models are shown. 15 pp., illus. The Mengel Co., Cabinet Div., Louisville, Ky.*

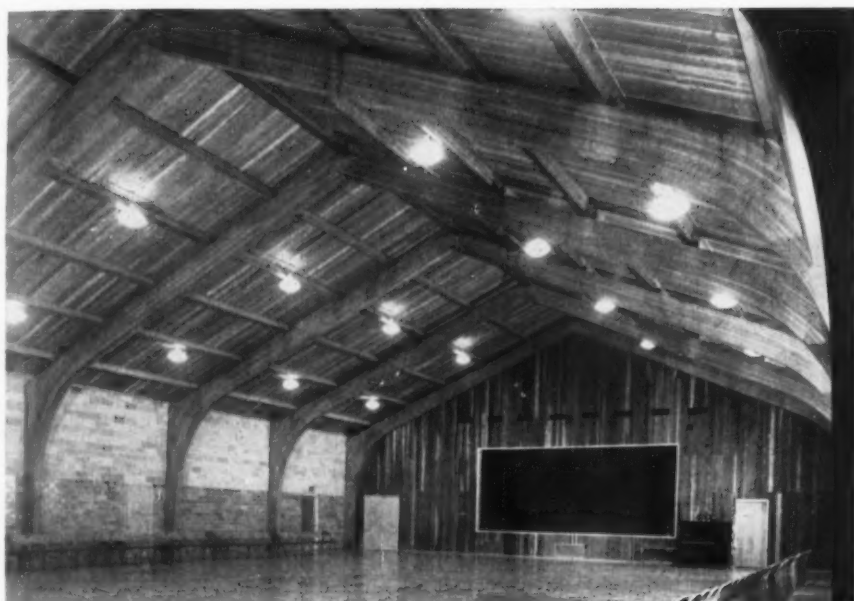
LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

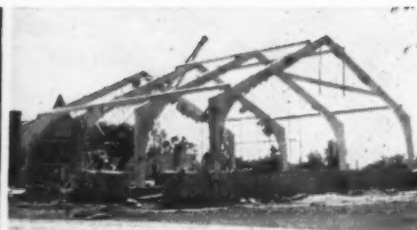
Gene D. Butler, Student, Box 344, Avalon, Calif.

M. Galal Eddin, Architect, 6 Haggagat, Roda, Cairo, Egypt.

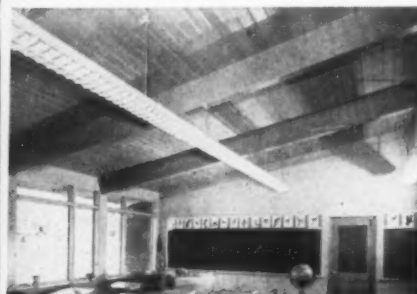
Woods & Starr, Architects, 508 E. 10th, Hays, Kansas.



Because Rilco arches are factory cut and drilled for connection hardware, they can be erected quickly by the regular contractor crew, saving time and labor.



Elementary school gymnasium at Gladstone, Minnesota, designed by architects Ingemann and Bergstedt, St. Paul.



A classroom in the Goodhue County School, at Vasa, Minnesota, designed by architects Max and Gerald Buetow, St. Paul.

LAMINATED STRUCTURAL MEMBERS

Engineered by Rilco

The luxury of wood is remarkably inexpensive with Rilco construction because erection costs are low. And the wide variety of basic shapes—plus special ones made to your specifications—permit many interesting designs for public or commercial buildings where clear span construction is desired.

These Rilco structural members are built up from selected, kiln-dried Douglas Fir laminations, bonded with the best structural glues. Each is designed for its particular job by Rilco's own engineering department.

Wood, contrary to popular belief, is a fire-resistant material. Being of relatively large cross section, laminated members are slow to burn. They do not quickly lose their strength under high temperatures and thus have definite advantages over other structural members. They are available to meet specific appearance requirements, such as architectural, industrial or structural finishes.

For architectural finish, they are surfaced, sanded, coated with wood sealer and wrapped to protect their smooth surface while in transit.

If you are planning a school or other large building, investigate the advantages of Rilco members—the dramatic beauty of fine wood, the strength and permanence of glued-laminated construction, and the greatly reduced labor costs. Rilco has a complete engineering staff and field representatives to give technical assistance on each job. And expanded production facilities assure prompt delivery. Write for our free catalog or, if you prefer, we'll be glad to have our experienced field representative call to discuss your requirements.

BASIC SHAPES OF RILCO GLUED-LAMINATED STRUCTURAL MEMBERS



Type 74 Radial Arches



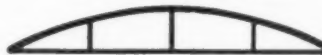
Type D
Boomerang
Tangent
Arches



Rilco Flat or Pitched Beams



Rilcord "62" Bowstring Truss



Type 70 Tied Arch

RILCO

Laminated **PRODUCTS, INC.**

"WORKS WONDERS WITH WOOD"

Rilco Laminated Products, Inc.

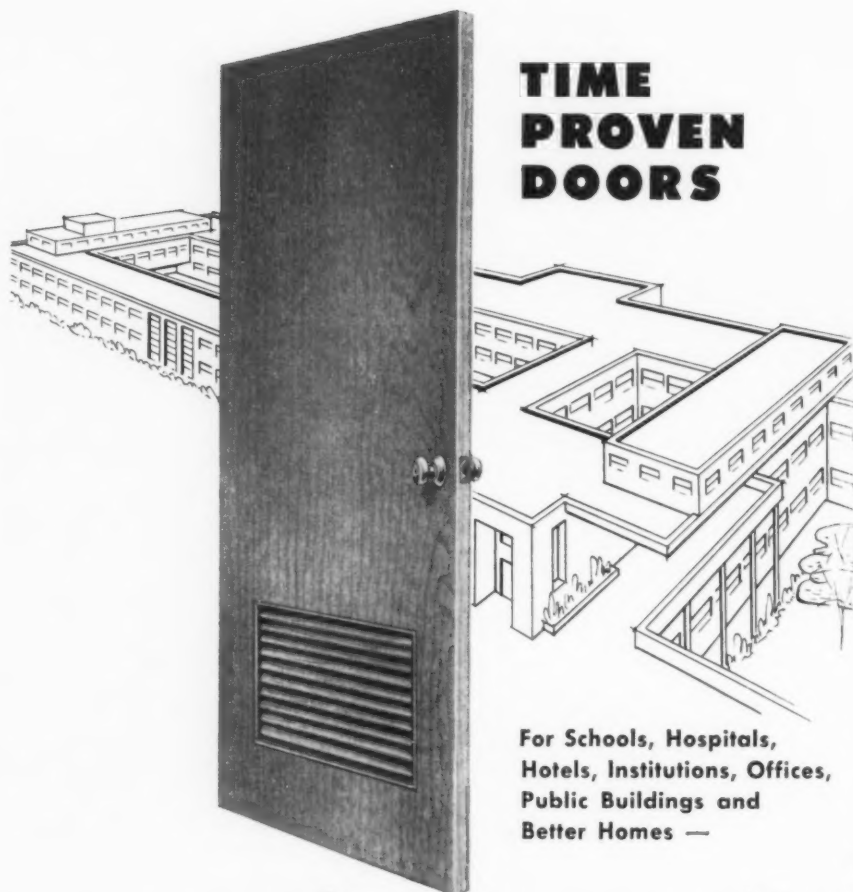
2518 First National Bank Bldg., St. Paul 1, Minn.

Please send me your new Commercial Catalog, containing basic design data and information on glued-laminated wood arches, trusses, and beams.

Name _____

Address _____

City _____ State _____



TIME PROVEN DOORS

For Schools, Hospitals,
Hotels, Institutions, Offices,
Public Buildings and
Better Homes —

SOLID CORE... Best under every condition!

Custom-Built FOR YOU!

You can specify HARDWOOD Doors with full confidence that they will meet your specifications because each is custom-made for your job.



When your plans call for doors that will withstand hard usage and severe abuse — you'll surely want to specify **HARDWOOD solid core Doors**. With them you get so many features not found in ordinary doors of lighter core construction — and, they're yours for so very *little* additional cost. **HARDWOOD solid core** construction gives you sturdier, longer-life doors that will withstand hard bumps and kicks without veneer "hole-thru" that results in costly replacements: it provides better room acoustics with more doorway sound resistance — and, assures additional safety by as much as half an hour in event of flash fires. *Time Proven* **HARDWOOD Doors** are made in three distinct types of core construction and faced with thin, medium or thick veneers to meet every job requirement. Consult **ARCHITECTURAL FILE 16c HA** or write for complete details.

RIVERBANK Sound Insulating Doors

Stop noise from penetrating — insure privacy. The practical doorway closure for private offices, music, radio and TV studios; hospitals, schools and institutions.

OFFICES IN
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HARDWOOD PRODUCTS CORPORATION • NEENAH • WISCONSIN

HARDWOOD PRODUCTS CORPORATION DOORS

THE RECORD REPORTS

WASHINGTON

(Continued from page 38)

five years if needs are to be met; *hospital building* — "could double its present annual rate of less than \$500 million a year for several years"; *airport construction* — "estimated to require nearly \$300 million a year for at least three years to catch up with needs."

COMPLETE 16 CHAPTERS OF AEC DESIGN CRITERIA

Sixteen chapters of design criteria have now been published by the Atomic Energy Commission, the agency said in its 13th semiannual report to the Congress.

The material, covering architectural, structural, heating and ventilating design as well as design considerations for specific building types such as administration buildings, laboratories, warehouses, utilities and other service facilities, are available only at AEC district offices and are not for distribution.

AEC reported the total U. S. investment in atomic energy plant facilities as of last June 30 was approximately \$3.5 billion. When construction for which funds have been appropriated is complete, the nation's capital investment in atomic energy will be about \$7.5 billion. Size of the current program is indicated in the report that costs for plant and equipment averaged about \$90 million a month during the last half of 1952.

Announce New Plant

AEC also announced late in January selection of a Fulton County, Illinois, site for a new explosives processing and assembly plant. The new plant will not manufacture radioactive material.

The Fluor Corporation Ltd. of Los Angeles is architect-engineer for the project.

VANCE REPORT URGES STANDBY ARMS PLANTS

Standby plants and assembly line equipment for vital military production rather than further extensive stock piling of military items was the recommendation to the office of Defense Mobilization of the Special Advisory Committee on Production Equipment headed by Harold S. Vance, chairman of the Board

(Continued on page 292)



St. Mary's High School, Phoenix, Ariz.—Lescher & Mahoney, architects

On Main Floor, Balcony... All Around the Gym

Universal Roll-A-Way Stands Assure Safe and Comfortable Seating *Plus Valuable Extra Floor Space Whenever Needed*

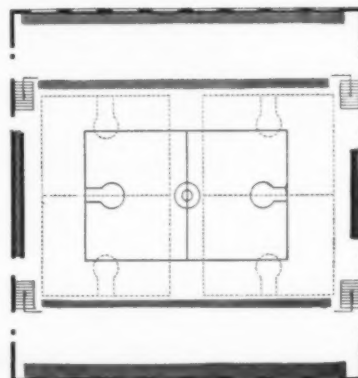
With today's building costs at such high levels, the plans for any gymnasium should provide maximum seating facilities and maximum useable floor space in minimum area. Such requirements often seem "impossible" to meet, yet they are actually easy... the *Universal* way!

The modern gymnasium illustrated above is a good example. With *Universal* Roll-A-Way Stands on both main floor and balconies, ample seating facilities are provided for basketball games and other school events. But, when not in use, these stands may be rolled back to the walls on both levels... providing approximately 5,000 feet more floor space for practice courts and other

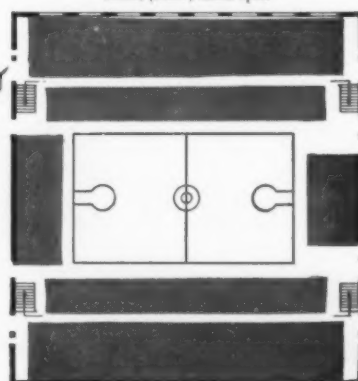
gymnasium activities. Carefully engineered and custom built to meet individual specifications, Roll-A-Way Stands are ideal for large capacity or small. They are compact, yet roomy and comfortable... neat and attractive... exceptionally strong and safe.

Improved vertical filler boards enclose Roll-A-Way's entire understructure from front view, add more rigidity to seat boards, make the complete stands even stronger and more substantial. Because of their centered positions, these filler boards do not interfere with spectators' leg room... permitting feet to be drawn back under seats in normal positions. Comfort is assured!

Investigate Roll-A-Way Stands today. Write for latest catalog, list of *Universal* installations, and working scale blueprints of two-level seating.



Typical plans showing (above) large floor space with stands closed; (below) stands open.



UNIVERSAL BLEACHER COMPANY
606 SOUTH NEIL STREET • CHAMPAIGN, ILLINOIS

THE RECORD REPORTS

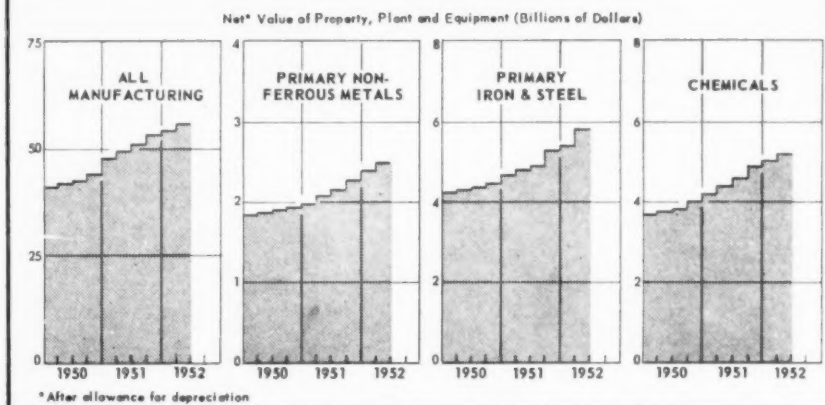
WASHINGTON

(Continued from page 288)

and president of the Studebaker Corporation.

The committee advocated spending at least \$500 million a year for the next 10 years on such standby facilities. The Department of Defense had a \$500 million item in its 1954 budget — now

Record growth of industrial strength has taken place since Korea



Unequalled



FOR DEPENDABLE PERFORMANCE

In every climate...in every weather condition...in every type of structure from single family residences to luxury hotels, schools, churches and hospitals, Gate City Wood Awning Window dependable performance has been proven over the years.

"You can Specify Gate City with Confidence"

Gate City Perma-Treated
WOOD AWNING WINDOWS
 Pioneered by GATE CITY SASH & DOOR CO.
 "Wood Window Craftsmen Since 1910"

Write Dept. AR-3, P. O. Box 901, Fort Lauderdale, Florida

How industry has expanded to meet the challenge of the cold war: chart from the Eighth Quarterly Report to the President by the Director of Defense Mobilization

under revision — to take care of the beginning of such a program.

While the committee concentrated first on machine tools and similar long-lead-time items, its report stressed that the recommendations should be applied to the production equipment industries as a whole. It advocated as a first step the determination of amount and character of additional capacity required.

ROUNDUP

- Reorganization, like budget-cutting, is in the air. A bill introduced in the House by Rep. Hoffman (R-Mich.) would transfer to a Building Construction Service to be created in the Department of the Interior (1) all the civil works functions of the Army Corps of Engineers; (2) the Public Buildings Service of the General Services Administration; (3) the hospital construction program of the Veterans Administration; (4) community services (now in the Housing and Home Finance Agency); and (5) civilian airport construction (now in the Civil Aeronautics Administration).

- New planning standards for three-story barracks for enlisted men, prepared as part of the first phase of the program to develop joint planning standards for all the armed forces, were ready last month for approval of the Defense Department's Construction of Coordinator, Frank Creedon, who is directing the ambitious effort to standardize the construction practices of the three services. Standards are expected to be issued

(Continued on page 296)

Refer to
 SWEET'S FILE
 17c-Ga

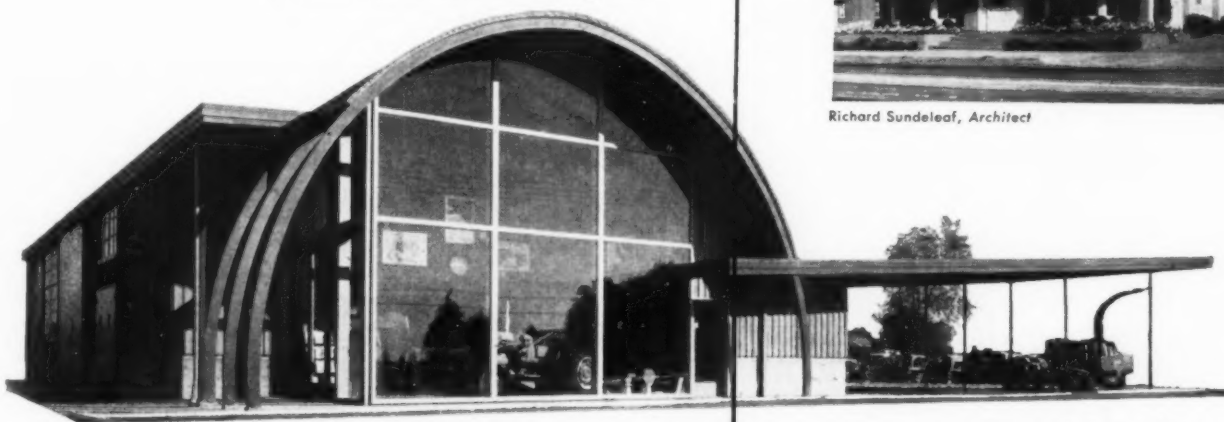
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 Producers'
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MODERN COMMERCIAL BUILDINGS

Built Better with West Coast Lumber...

Striking individuality is the keynote of today's modern commercial buildings of wood. These attractive structures command attention and promote business for your progressive clients. Speed of construction means earlier occupation of the building... economy of construction means less capital investment, more available operating capital for the business concerned. Specify wood for the next modern commercial building you design—take advantage of its natural strength, beauty and versatility. And for consistently dependable lumber specify time-tested West Coast Woods...

Douglas Fir, West Coast Hemlock,
Western Red Cedar and Sitka Spruce.



Wilmsen & Endicott, Architects

Lawrence B. Rice, Architect



The Economical Building Material from Ever-growing Forests



Lumber of Quality Produced by Members,
WEST COAST LUMBERMEN'S ASSOCIATION



Morton H. Caine, Architect



Richard Sundeleaf, Architect

SEND FOR FREE BOOKLET ON MODERN COMMERCIAL BUILDINGS

Attractive, 2-color, 12-page booklet filled with photographs of representative commercial buildings of wood. Architects point out why they specified wood for the particular building they designed. Excellent source material for your files. Ask for as many copies as you need.



WEST COAST LUMBERMEN'S ASSOCIATION

1410 S.W. Morrison, Room 420, Portland 5, Oregon

Please send me _____ copies of your FREE booklet
"MODERN COMMERCIAL BUILDINGS".

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City _____

Zone _____ State _____

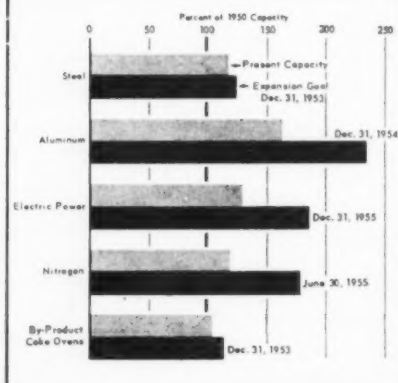
THE RECORD REPORTS

WASHINGTON

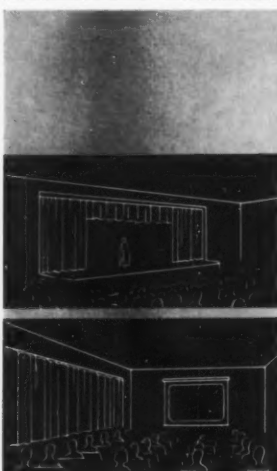
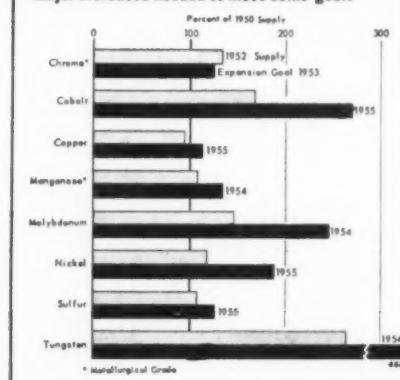
(Continued from page 292)

for one- and two-story barracks, bachelor officers' quarters, some other housing types, and mess halls. They are described as "guiding principles" for the architect-engineer, rather than strict specifications; but they will be specific enough to set forth space requirements,

Expansion of major industries is proceeding rapidly



Supplies of most key materials raised since 1950; major increases needed to meet some goals



*for school auditoriums,
audio-visual rooms:*

*grant drapery hardware
is the recognized line.*

Grant

pulley & hardware co.,

31-71 whitestone parkway, flushing, n. y.

■ *Have you sent for our catalog? You should!*

Two more charts from the Eighth Quarterly Report to the President by the Director of Defense Mobilization provide graphic view of progress, present status and "the job ahead"

fire ratings, etc. Some educated guesses on the space question — 125 sq ft per enlisted man, 140 sq ft per enlisted woman. Only permanent-type construction is involved.

• Another \$75 million for hospital construction under the Hill-Burton Act for fiscal 1954 is considered a good bet. The figure in the Truman budget is expected to survive in view of past Republican support for the program. If the program does get the same amount as this year, the total of projects approved for federal aid by the U. S. Public Health Service, which administers the program, would reach 2160 by June 30, 1954. In any case, by June 30 of this year, \$542.5 million will have been allocated for hospital and health center construction since the passage of the Hospital Construction (Hill-Burton) Act in 1946.

• Civil Aeronautics Administration recommendations for airport construction, based on a survey of growing commercial and air defense needs ordered last fall by then Secretary of Commerce Charles Sawyer, were slashed by the Budget Bureau from \$76 million to \$30 million, the Truman budget figure. Now the balance, or \$46 million, is awaiting review by the new Secretary of Commerce, Sinclair Weeks. If the Department of Commerce so decides and the Budget Bureau approves, the \$46 million can be requested in a supplemental bill.

• U. S. Aluminum supplies should be ample, especially after military con-

(Continued on page 300)

FEDDERS

CONVECTOR AND BASEBOARD-RADIATION



HELP MAKE EVERY HOME YOU DESIGN

A Model Home



Showing how Fedders Convector-Radiator fits into smart decorative ensemble.



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THE RECORD REPORTS

WASHINGTON

(Continued from page 296)

sumption tapers off, according to the Joint Committee on Defense Production, which has just completed a study of the aluminum expansion program and competition created by it. The aggressive promotion of aluminum markets by in-

dustry has been so effective that demand has outdistanced supply several times since Korea, the committee admitted; but it sees the shortage as a temporary one.

- U. S. capacity to produce eight steel products which would be critical during a period of full mobilization has increased as a result of the basic steel expansion program now nearing completion, according to a report from the National Production Authority on the first phase of a survey it has undertaken.


The second part of the survey will involve a compilation of data on military and other requirements for the eight critical products under full mobilization. The third section will consist of a comparison and evaluation by a group of government and industry specialists of the data on output potential and requirements under various assumptions as to the pattern, timing and peaking of wartime product demands.

- Construction activity in January 1953 was \$2.3 billion, six per cent over January 1952, according to preliminary estimates by the U. S. Labor Department's Bureau of Labor Statistics and the Building Materials Division of the Department of Commerce. Dollar volume of commercial construction was up 26.5 per cent; housing, seven per cent.

- *On the housing front:* It was still Commissioner Raymond Foley of the Housing and Home Finance Agency long after a whole new batch of rumors apparently got knocked out at the Chicago convention of the National Association of Home Builders. There Retiring President Alan Brockbank announced that he was withdrawing his own candidacy as a result of word from the President's headquarters that an industry man was not wanted for the job. Henry J. Bubb, a former head of the United States Savings and Loan League, and former Rep. Albert Cole, a bitter foe of public housing, were also reported to be out of the running; but Cole remained a persistent favorite of the prophets. . . . Thomas P. Coogan, head of Housing Securities Inc. of New York, former president of N.A.H.B. and an assistant to the Secretary of Defense on military housing matters, is on record as opposed to breaking up the Housing and Home Finance Agency. In a recent Newsletter issued by his firm Mr. Coogan proposed leaving the HHFA setup as is but working toward closer correlation with the Veterans Administration on housing. He also called for creation of a Cabinet post, Secretary of Housing, for the housing administrator. . . . The first bill in the new 83rd Congress amending the National Housing Act, introduced by Senator Homer Capehart (R-Ind.), chairman of the Senate Banking and Currency Committee, sought to increase the Title I loan insurance authority of the Federal Housing Administration by \$500 million. . . . John M. Dickerman has been named executive director of the National Association of Home Builders.

(Continued on page 302)

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THE RECORD REPORTS

(Continued from page 300)

ers, succeeding to the tasks of Frank W. Cortright, retiring executive vice president. . . . FHA removed the \$14,000 credit control limitation on maximum insurable mortgage under Section 203 of the National Housing Act, covering single-family property, and reinstated the statutory maximum mortgage amount of \$16,000. . . . H. R. Northup, executive vice president of the National Re-

tail Lumber Dealers Association, called for Congressional action to enable FHA to raise the ceiling on FHA mortgages to \$20,000 "to enable families needing larger homes to obtain the benefits of mortgage insurance." . . . HIFA relaxed restrictions placed in July 1950 on disposition of Lanham Act World War II housing and Veterans Reuse housing. The relaxation applied to about 110,000 units of the approximately 283,000 units still to be disposed of. . . . A substantial volume of 1953 housing production will be purchased with G. I. financing,

Director T. B. King of the VA Loan Guaranty Service, believes. As 1953 began, the volume of G. I. home loans was running about 20,000 a month, approximately two thirds of them for purchase or construction of new homes. . . . The volume of home financing so far in 1953 is reported ahead of 1952 in most parts of the country, according to the Executive Committee of the National Savings and Loan League. League President Raleigh W. Greene of St. Louis thinks earlier predictions of a million houses this year may be surpassed.

ON THE CALENDAR

Current through Mar. 15: Built in U.S.A. A survey of American architecture, both industrial and residential, since the Museum's 1944 exhibit — Museum of Modern Art, 11 W. 53rd St., New York City.

Current throughout the year: Good Design 1953, sponsored by the Museum of Modern Art and the Merchandise Mart; a selection of home furnishings that have come on the market since July 1 — The Merchandise Mart, Chicago.

Mar. 4-6: American Institute of Architects Board of Directors' meeting — Washington, D. C.

Mar. 8-Apr. 8: Northwest Craftsmen; a competitive exhibition of ceramics and ceramic sculpture, jewelry, enamel work, metal work, wooden containers and tableware, woven textiles, decorated fabrics and lamps — Henry Gallery, University of Washington, Seattle.

Mar. 11-13: 39th Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit.

Mar. 16-20: Conference of National Association of Corrosion Engineers — Chicago.

Mar. 19: Final Gold Medal Dinner and Awards — Architectural League of New York.

Mar. 19-22: Annual Meeting of the Committee on Art Education — Museum of Modern Art, 11 West 53rd St., New York City.

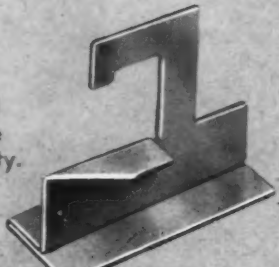
Mar. 23-27: Eighth Western Metal Exposition and Western Metal Congress, sponsored by American Society for Metals and other technical groups — Pan-Pacific Auditorium and Statler Hotel, Los Angeles.

Mar. 23-Apr. 4: York Course on Protection and Repair of Ancient Buildings.

(Continued on page 306)

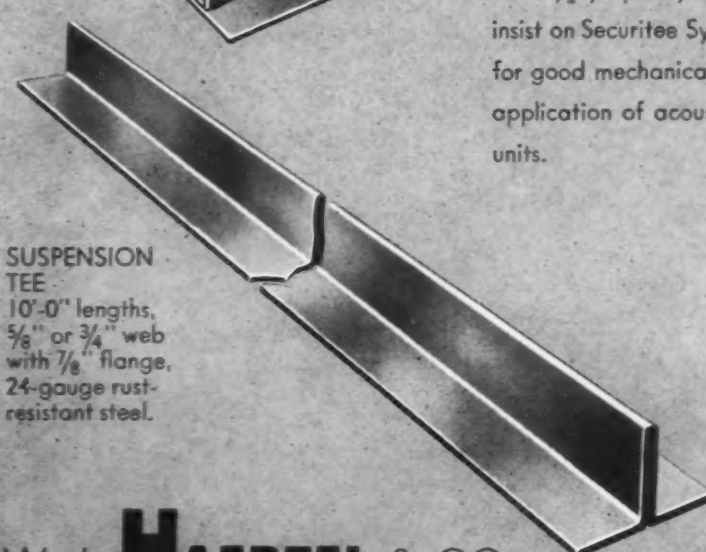
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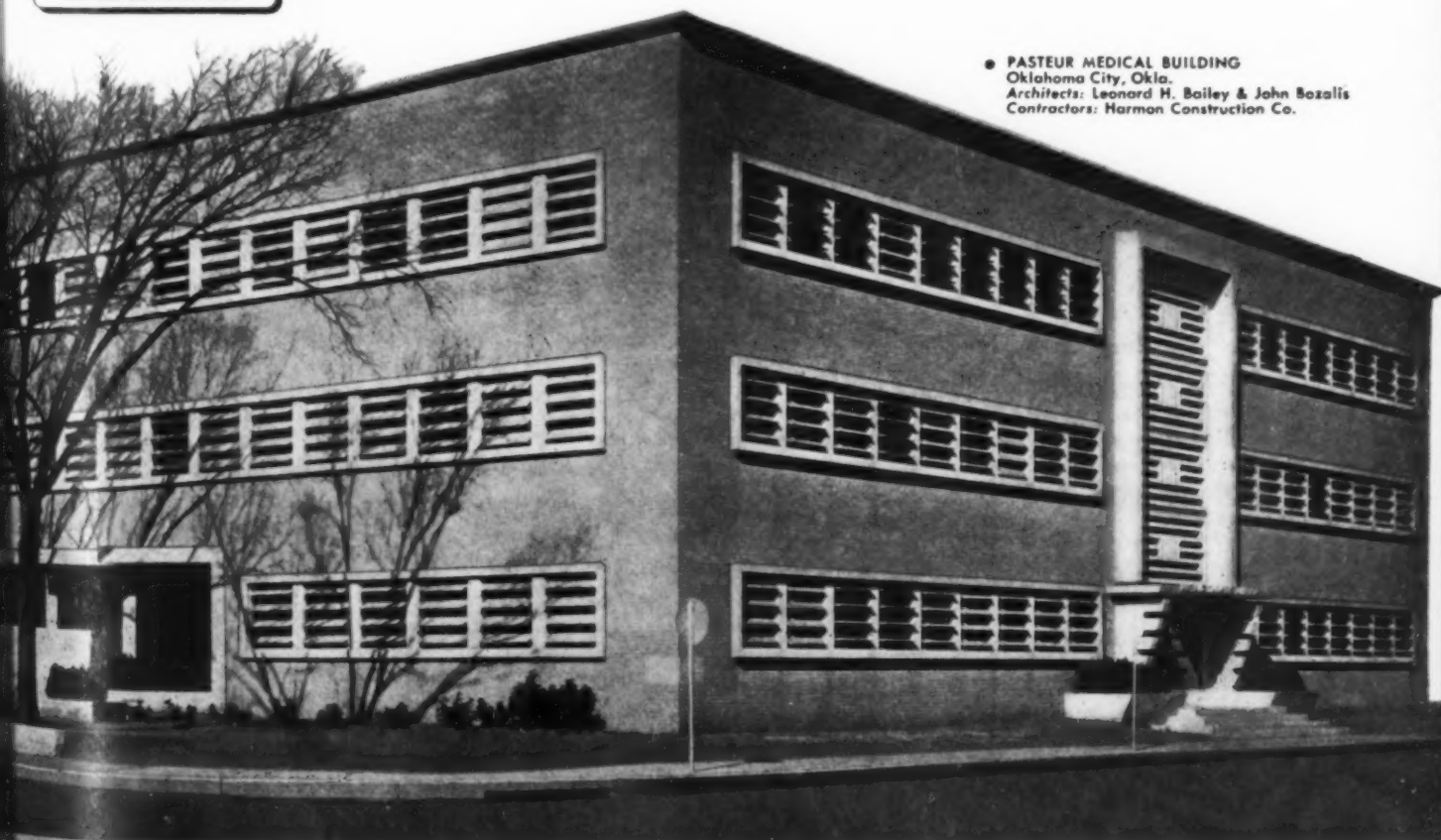
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THE RECORD REPORTS

(Continued from page 302)

Details from Secretary, York Civic Trust, St. Anthony's Hall, Peaseholme Greene, York, England.

Apr. 6-30: Prestressed Concrete, a series of eight lectures and discussions on consecutive Monday and Thursday evenings, co-sponsored by the Portland Cement Association — Newark College of Engineering, 367 High St., Newark 2, N. J.

Apr. 6-May 10: Nineteenth Century Architecture, an exhibition — The Art Alliance, 251 South 18th St., Philadelphia.

Apr. 10-11: Annual meeting, Michigan Engineering Society — Kellogg Center Hotel, Michigan State College Campus, East Lansing, Mich.

Apr. 22-23: Fifth Annual National Engineering Conference, American In-

stitute of Steel Construction — Detroit Engineering Society Building, 100 Farnsworth Ave., and Park Shelton Hotel, 115 East Kirby, Detroit.

Apr. 25-26: Annual Assembly of Royal Architectural Institute of Canada — Royal York Hotel, Toronto, Ont.

Apr. 25-May 2: Historic Garden Week in Virginia.

Apr. 27-May 8: British Industries Fair — Castle Bromwich, Birmingham; Earl's Court and Olympia, London. Further information from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y.

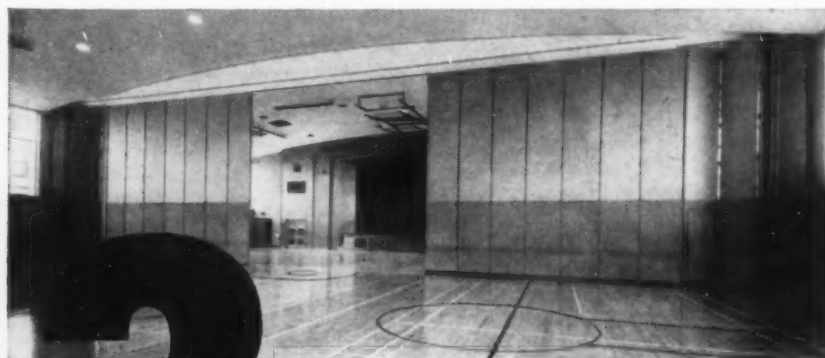
Apr. 29-Sept. 7: Sculpture of the 20th Century: more than 90 sculptures by American and European artists. Exhibited also at the Philadelphia Museum of Art and the Art Institute of Chicago. In the newly designed Museum Garden, opening with this show — Museum of Modern Art, 11 West 53rd St., New York City.

May 9-15: Society of the Plastics Industry, Inc., annual meeting and conference — cruise to Bermuda.

May 18-20: Canadian Hospital Council — Chateau Laurier, Ottawa, Ont.

May 18-22: Fifth National Materials Handling Exposition, sponsored by Material Handling Institute — Convention Hall, Philadelphia.

May 25-30: Eighth International Hospital Congress — Church House, Great Smith St., Westminster, London.



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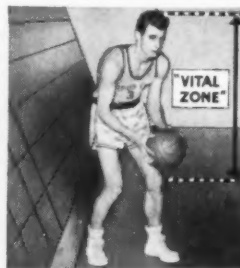
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OFFICE NOTES

Offices Opened

• Henry B. Baume, A.I.A., announces the opening of an office for the practice of architecture at 530 West Eleventh Ave., Denver 4, Colo.

• William G. Christy, formerly director of New York's Bureau of Smoke Control, has opened an office as consulting engineer at 34 Park Row, New York City.

• Bengt F. Friberg has announced the opening of an office at 915 Olive St., St. Louis, Mo., for practice as a consulting engineer specializing in steel and concrete structures, pavement design, prestressed concrete and product consultation to the construction industry.

• Raymond K. Knox, Architect, announces the opening of his office for the

(Continued on page 310)

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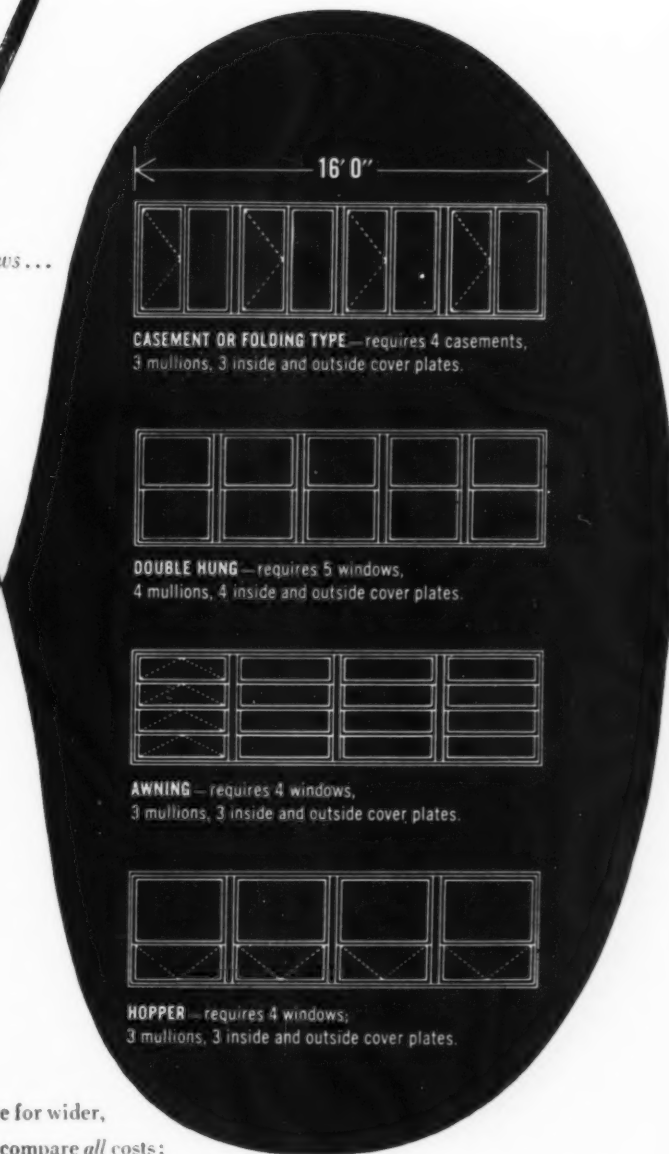
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(Continued from page 302)

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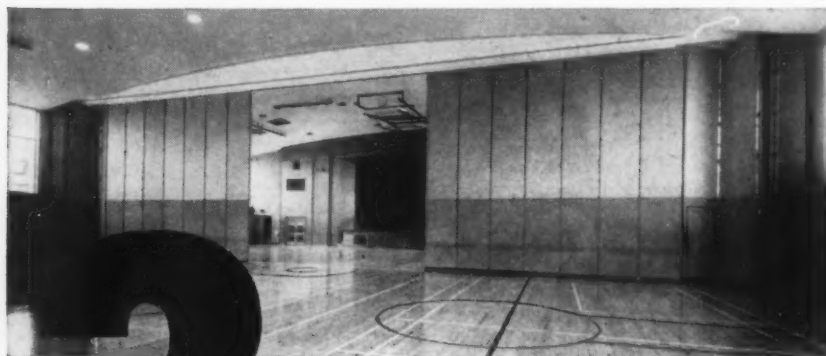
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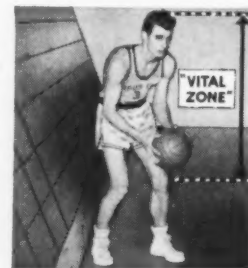
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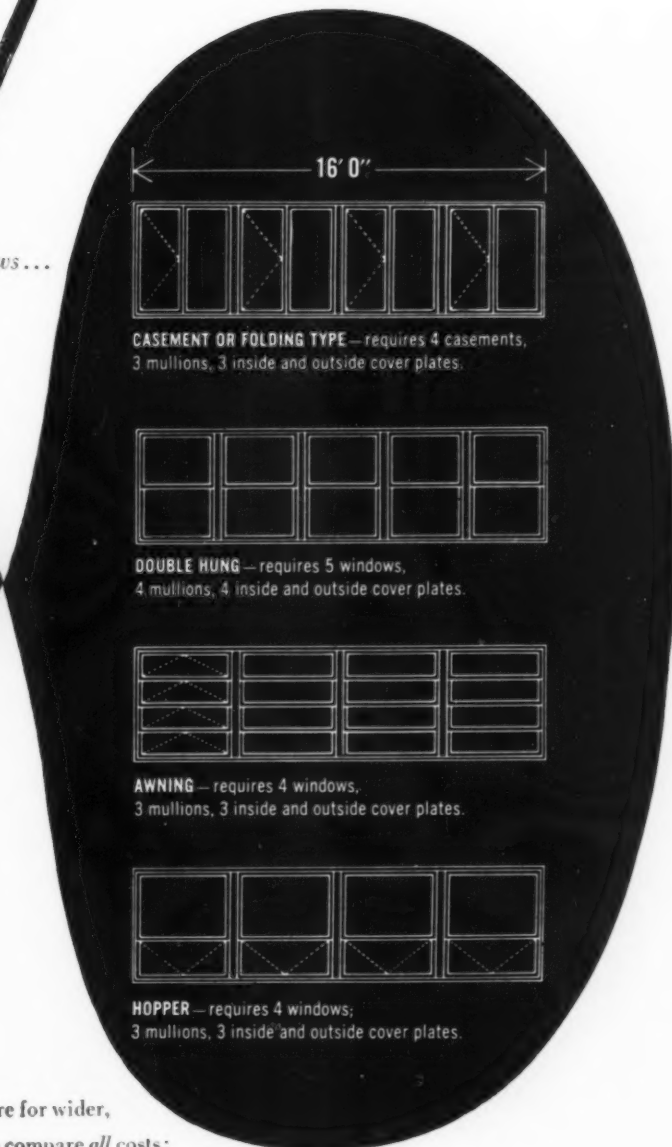


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THE RECORD REPORTS

(Continued from page 306)

practice of architecture at 913 South Sixth St., Springfield, Ill.

• Robert H. McCarty, Jr., Architect, has opened an office for the practice of architecture at 1124 Falls Building, Memphis 3, Tenn.

• Frank P. Patterson, A.I.A., has announced the opening of an office for the general practice of architecture, 206 Madison Street, Tampa, Fla.

• Serge P. Petroff, Architect, announces the opening of an office at 285 Madison Ave., New York City.

New Firms, Firm Changes

• Egbert Bagg, Architect, has announced the formation of a partnership with his son, Egbert Bagg IV, for the practice of architecture. The firm, formerly Bagg

& Newkirk, will be known as Egbert Bagg Associates.

• The firm of Edwards and McKimmon, Architects, of Raleigh, N. C., announces that Robert W. Etheridge, Architect, has become an Associate in the firm.

• Ernest J. Kump, A.I.A., has announced the formation of a partnership with James D. Fessenden, A.I.A., and Delp W. Johnson, A.I.A. The firm will continue to be known as Kump Associates, 576 Sacramento St., San Francisco 11, Calif.

• The Office of Robert A. Little and Associates, Architects, of Cleveland, announces the associateship of Chalmers Grimm, Jr., and John H. Zoller, Jr.

• Jesse M. Page Jr., A.I.A., has rejoined his firm, Page and Smith, Architects, of Raleigh, N. C., after a tour of duty with the U. S. Navy, where he served with the Bureau of Yards and Docks.

• Alfred Easton Poor has announced that the firm of Walker & Poor, Architects, will hereafter be known as the Office of Alfred Easton Poor. The offices will continue to be located at 787 Fifth Ave., New York 22, N. Y.

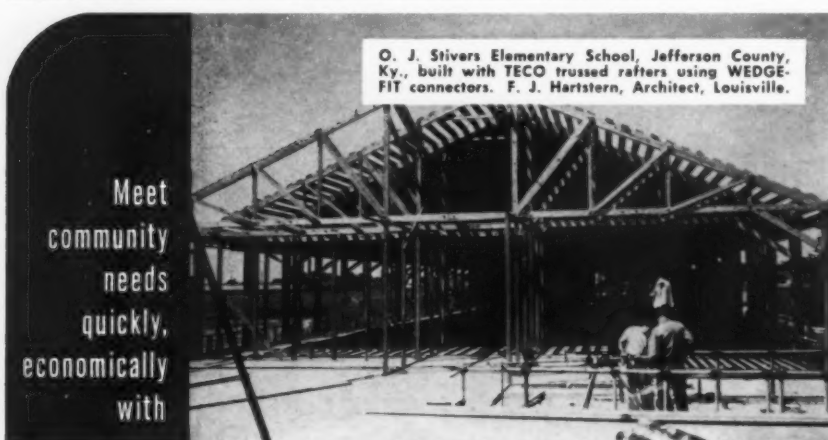
• Alfred Damian Reid, Benedict J. Kaiser and Edward K. Schade have announced the formation of a partnership for the practice of architecture. The firm will be known as Alfred D. Reid Associates, 324 Fourth Avenue, Pittsburgh 22, Pa.; they are successors to Kaiser, Neal & Reid.

• The firm of Eugene Schoen & Sons announces the formation of the partnership of Lee Schoen and Thomas Hennessy, the firm to be known as Schoen & Hennessy, Architects, 19 East 53rd St., New York 22, N. Y. Eugene Schoen will serve the firm as special consultant.

• Dr. Chester L. Knowles, of Knowles Associates, chemical, metallurgical and mechanical engineers, has announced that R. C. Smith has joined the firm as a partner. Mr. Smith was formerly a vice-president of Eversharp, Inc.

• Newton R. Smith and Earl Purdy have become associates of the firm of McKim, Mead & White according to an announcement from the New York firm.

(Continued on page 314)



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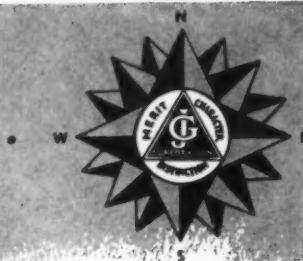
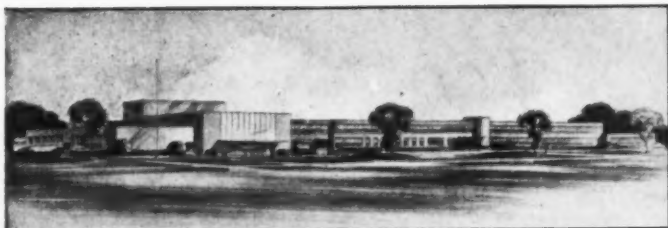
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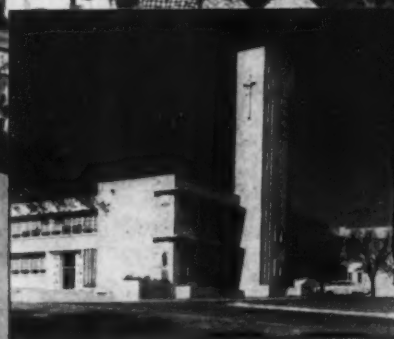
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Builders' Hardware: Tom Jones Hardware Co., Richmond, Va.
- 3
Blythe Park School, Riverside, Ill.
Architects: Perkins & Will, Chicago, Ill.
Builders' Hardware: Clark-Barlow Hardware Co., Chicago, Ill.
- 4
Incarnate Word High School, San Antonio, Texas
Architects: Julian & White, San Antonio, Texas
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THE RECORD REPORTS

(Continued from page 310)

New Addresses

The following new addresses have been announced:

G. A. Beltemacchi, Architect, 9531 South Hayne Avenue, Chicago 43, Ill.
Cook & Bouzan, Architects, 807 Third Street West, Calgary, Alta.
John D. Cordwell, Architect, 4830 North Talman Avenue, Chicago 25, Ill.
Gardner C. Coughlen, Architect, 934

South Irwin Avenue, Green Bay, Wisc.
Craig & Madill, Architects, 734 Spadina Avenue, Toronto 4, Ont.

W. Parker Dodge Associates, Architects & Engineers, Red Mill Road, Rensselaer, N. Y.

Kelly & Gruzen, Architects-Engineers, (Newark office) National Newark Building, Suite 919, 744 Broad Street, Newark, N. J.

Kemp, Bunch & Jackson, Architects,

Richardson Building, 33 South Hogan Street, Jacksonville 2, Fla.

New Hampshire Associate Architects, 922 Elm Street, Manchester, N. H.

O'Dell, Hewlett and Luckenbach, Architects, 950 North Hunter Boulevard, Birmingham, Mich.

Frank S. Parker Associates, Architects & Engineers, 205 East 43rd Street, New York 17, N. Y.

Av. Afonso Pena, 867, Salas 2318/20, Belo Horizonte, Estado de Minas Gerais, Brasil.

Pereira & Luckman, Architects-Engineers, 9220 Sunset Boulevard, Los Angeles 46, Calif.

Grant A. Peterson, Architect, 310 East Lincoln, Tullahoma, Tennessee.

John D. Phillips, Architect, 678 Parker Street, East Longmeadow, Mass.

Norman N. Rice, Architect, 2400 Pine Street, Philadelphia 3, Pa.

Ralph Swearingen, Architect, 1521 Fourth Avenue, San Diego 1, Calif.

Robert Bruce Tague, Architect, 2025 Mohawk Street, Chicago 14, Ill.

Henry J. von Wyl, Architect, 2026 Ivanhoe Street, Denver, Colo.

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COMPETITIONS

International Exhibition to Mark Sao Paulo IV Centenary

Architects of any nationality as well as officially recognized schools of architecture are invited to participate in an international exhibition of architecture to be held at the Sao Paulo Museum of Modern Art as part of the II Biennial of the Museum in connection with next winter's celebration of the IV Centenary of the city of Sao Paulo.

Entries must be submitted to the office of the Biennial not later than July 15; work must be presented in black and white photographs or in photostats of drawings. Models, color photographs and transparencies will not be admitted. There will be both a selection committee and a panel of judges.

Awards will be made in each of 11 specific categories and in a "miscellaneous" classification to include works not covered by any of the specific categories. The 11 categories: private houses; apartment buildings (collective); religious buildings (churches); cinemas or theaters; sports stadiums; commercial buildings (offices and/or shops); industrial buildings; government build-

(Continued on page 316)

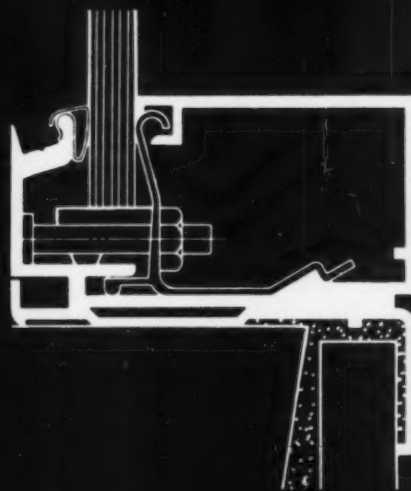
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PITTSBURGH PLATE GLASS COMPANY

THE RECORD REPORTS

(Continued from page 314)

ings; hospitals; schools; and town planning problems.

Young Architect's Prize

In addition to the major international prizes, there will be a "Prize for a Young Architect" and a "Prize for a School of Architecture," both instituted at the suggestion of Siegfried Giedion, who was chairman of the Museum's first Biennial.

The young architect's prize will be awarded to an architect under 35 either for a single work or the aggregate of works presented.

Schools of architecture are each to present one work, based on the theme "Civic Center of a Residential Group for 10,000 Inhabitants" and chosen by vote of students and professors from the solutions developed by individuals or groups of students in each school.



Photograph taken in 1934 during the original program of research by the U. S. Forest Products Laboratory, Madison. Glued, laminated arch frames built of "stress-graded" southern yellow pine by Unit Structures, Inc. were tested to destruction and furnished the basic data for acceptance of laminated, glued wood structural units by the construction industry.



FIRST of Its Kind and still first in economical construction UNIT All-glued Laminated Arches

To the design engineer, the decisive advantage of the laminated arch is measured in dollars and cents — low initial cost, low installation cost, no decorating expense, and the very minimum of maintenance.

These savings, plus increased freedom in building design, are identified with all types of Unit laminated structures. They are a matter of record in hundreds of buildings from coast to coast.

The foundation for this most economical method of roof construction was laid back in 1934 when Unit Structures produced the first all-glued, laminated arches accepted for the building industry by the U. S. Forest Products Laboratory. This pioneer leadership in experience and manufacturing facilities is yours to draw on and work with. See SWEET'S catalog for basic arch information; and write, without obligation, for detailed technical information on any specific problem.



UNIT STRUCTURES, INC.

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Inquiries and requests for entry blanks should be addressed to: II Biennial do Museu de Arte Moderna de Sao Paulo, Rua 7 de Abril, 230 — Sao Paulo — Brasil.

\$5000 Carrier Competition For Air Conditioned Homes

Thirty-one prizes totaling \$27,800 and including a national grand prize of \$5000 are offered by Carrier Corporation, manufacturers of air conditioning equipment, in a nationwide architectural competition to obtain designs for homes planned around air conditioning. Closing date is April 10.

The contest, which has been approved by the Committee on Secondary Competitions of the American Institute of Architects, is open to registered architects, architectural draftsmen and architectural students. Harold R. Sleeper, F.A.I.A., of New York, is professional adviser.

Prizes will include six prizes of \$2000 each distributed in three geographic regions and eight additional prizes for each region. The regional grand prizes will be offered in two size categories — houses of 1000 sq ft or under and houses of 1800 sq ft and under. Awards will be made for both pitched roof and flat roof houses in both size categories.

The board of judges will consist of three architects, a builder and a housewife. Awards will be based on esthetic considerations and on suitability and adaptability for use in a homebuilder's development. Particular stress will be given to good planning for house and site, taking advantage of year-round air conditioning. Another important consideration will be skill in achieving economies in plan, design and equipment from the inclusion of air conditioning.

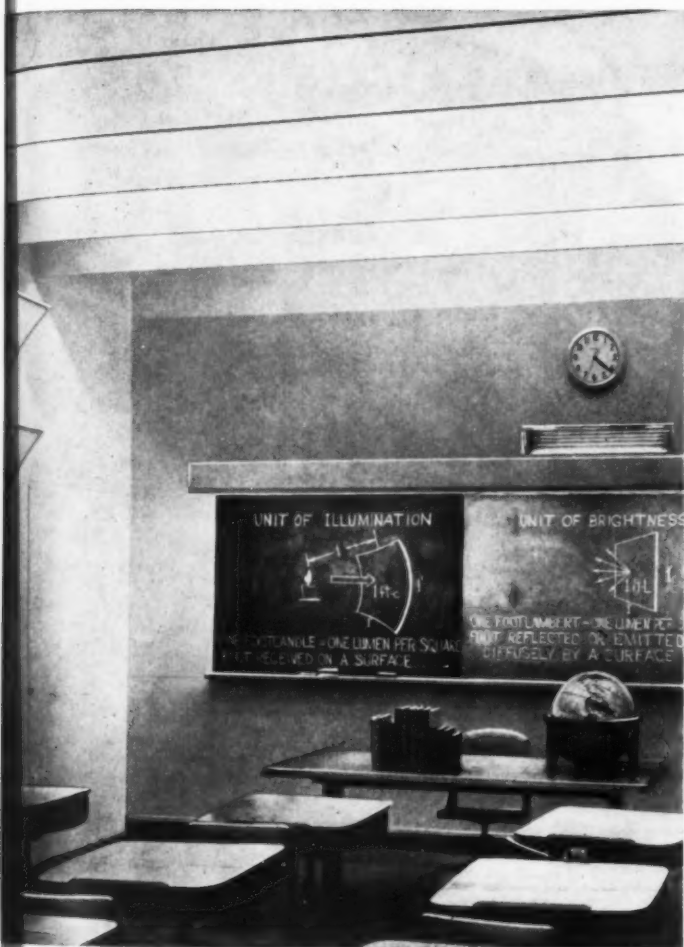
Full details and entry blanks are available from Harold R. Sleeper, F.A.I.A., Professional Adviser, Carrier Weather-maker Home Competition, 25 West 44th Street, New York 36, N. Y.

Tile Council Student Contest For Tropical Hotel Design

Design of a hotel for the tropics is the program of a new competition for architectural students just announced by the Tile Council of America in cooperation with the Beaux-Arts Institute of Design. The contest closes April 10 and will be judged May 2.

(Continued on page 318)

480Y/277-Volt Lighting Approved for Schools, Stores, Office Buildings



Save dollars and copper with higher voltage. Have safety and convenience with G-E remote control switching.

A new amendment to the National Electrical Code extends the use of 480Y/277-volt distribution to include supplying ballasts of fluorescent fixtures in large schools, office buildings, stores. This means that the economies of higher voltage for lighting are no longer limited to industrial uses.

For example

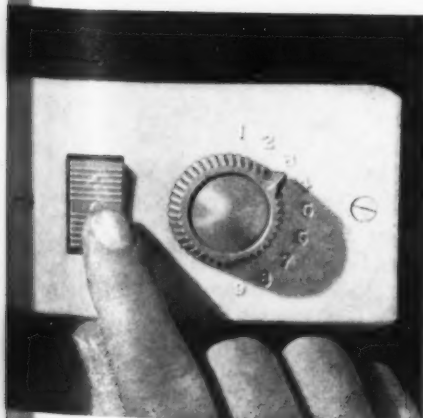
In many larger buildings, power at 480 volts, 3-phase, is already used to operate heating and air conditioning systems and other heavy-duty electrical equipment. In a "Y" connected system, the phase to neutral voltage is 277 volts which can be used efficiently with standard fluorescent lighting fixtures. Original installation costs for a 480Y/277-volt lighting system can be as much as 40% less than a comparable 120 volt system—copper needs can be cut up to 50%.

G-E Remote Control for Switching

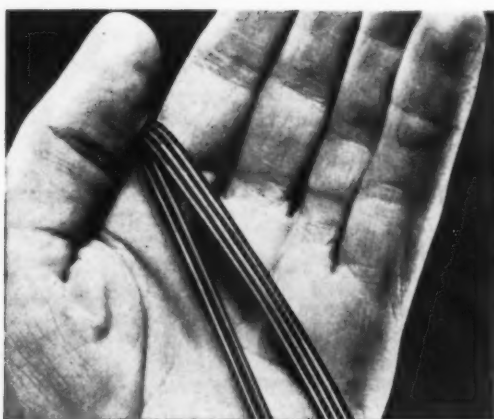
The G-E remote-control, low-voltage wiring system eliminates the higher voltage at the wall switch. The remote-control switch requires only 24 volts. The switch actuates a relay which can be installed in any convenient location. The relay does the actual ON-OFF switching of the higher voltage.

Investigate 480Y/277-volt distribution

Higher-voltage fluorescent lighting can mean big savings for many of your clients. For a copy of General Electric's Remote-Control Manual, write Section D56-35, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.



Extra Feature of G-E remote-control wiring is that you can have master selector switches control nine circuits from one switch.



Small, Lightweight Control Wire connects switches to relays. The small wire saves copper—and switches are less costly to move.



Remote-Control Relay operates on 24 volts—does the actual switching of the higher voltage. Rated 10 amps at 277 volts. U. L. approved.

You can put your confidence in—

GENERAL  ELECTRIC

THE RECORD REPORTS

(Continued from page 316)

A national prize of \$100 will be awarded and in addition, \$25 goes to the student submitting the top design in each school.

Edward D. Stone prepared the problem.

- Selection of the 64th winner of the Rotch Traveling Scholarship is to be

made in April. Applicants must be American citizens, and under 32 years of age on May 1, 1953. Information on requirements concerning architectural experience, degrees, etc., may be obtained from William Emerson, Secretary, Rotch Traveling Scholarship Committee, 107 Massachusetts Ave., Boston 15, Mass.



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AT THE COLLEGES

Planning for the Summer

- The Department of Architecture and Architectural Engineering of the University of Colorado will conduct a School Plant Planning Workshop July 27–August 4.

The workshop, which will be under the direction of Prof. Thomas L. Hansen, A.I.A., head of the department, will offer lectures and seminars devoted to school plant design in relation to educational programs, to meet the needs of superintendents, principals, school board members and others interested in school building programs.

Field trips to Denver and other nearby communities will provide an opportunity to look over new school buildings. The program will include talks by practicing architects, representatives of building materials manufacturers associated with the Producers' Council and others.

- A nine-week study-tour to selected urban areas in Europe June 15–August 16 is sponsored by the Planning and Housing Division of the School of Architecture of Columbia University.

The tour, which may be taken as a six-point course in "Contemporary Urban Planning and Development in Europe," with credit toward a degree, will be directed by J. Marshall Miller, associate professor of planning at Columbia.

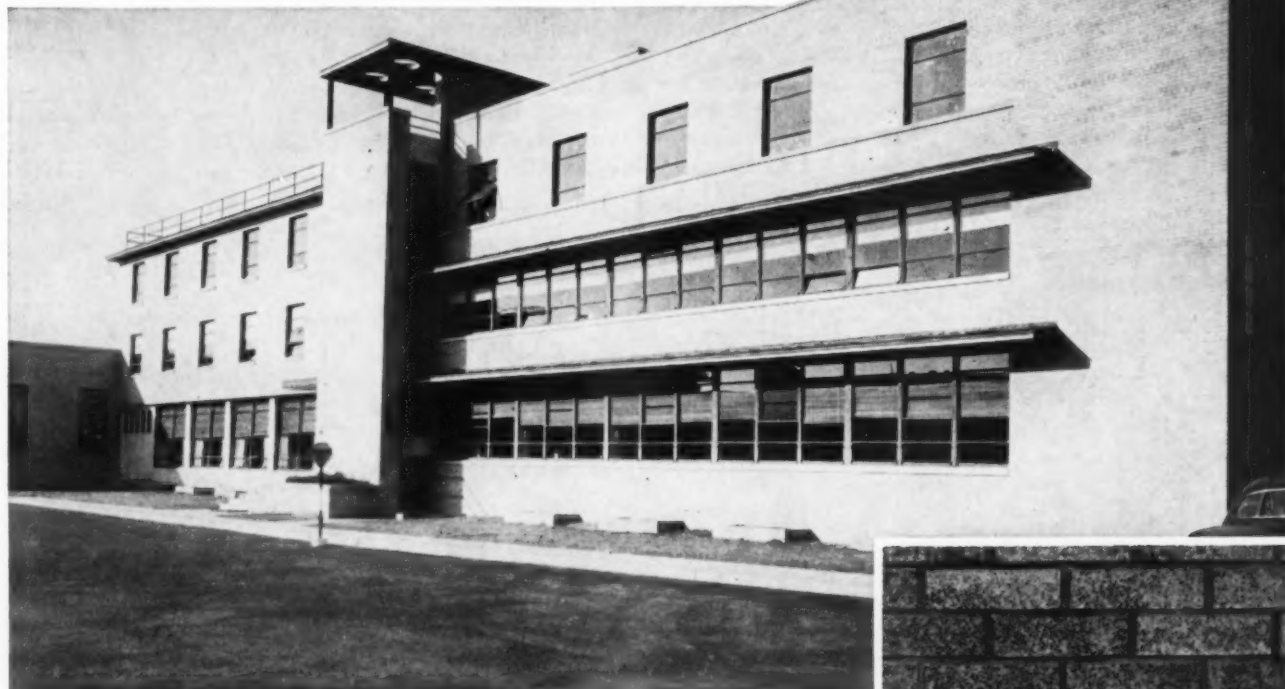
The cost: living expenses, \$1295; tuition at \$25 per point and a university fee of \$7. The itinerary: New York City to London via Pan American World Airways, London and vicinity, Coventry, Birmingham, Liverpool, Edinburgh, Newcastle, Bergen, Oslo, Stockholm, Goteborg, Copenhagen, Hamburg, The Hague, Rotterdam, Amsterdam, Hilversum, Antwerp, Brussels, Reims, Paris and vicinity, Fontainebleau, Paris to New York City via Pan American World Airways.

Queries should be addressed to Professor Miller, 504 Avery, Columbia University, New York 27, N. Y. Applications must be approved before April 1.

- A summer school of architecture will be held in Salzburg, Austria, from June 10 to September 3. The session, encouraged by the Department of Architecture at Carnegie Institute of Technology and

(Continued on page 320)

Bonded for beauty and strength with **ATLAS MORTAR**



Hebrew Home for Orphans and Aged, Jersey City, N. J.

CONTRACTOR TELLS WHY IT'S PREFERRED

The uniformly good color of Atlas Mortar can be seen readily on this job. But what you can't see is even more important. It's *the way* Atlas Mortar helped give a better job. The Geo. Siegler Co., Contractors, Jersey City, N. J., report they used Atlas Mortar because its mixes are smoother, work more easily, and the color is uniformly good.

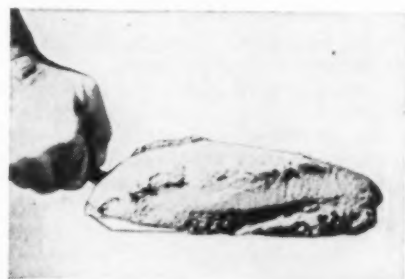
HOW IT HELPS CONTROL OF MIX—Atlas Mortar is such a well-balanced masonry cement that mixes get too short to "work" if *too much* sand is added. Thus, in effect, Atlas Mortar becomes its own "job inspector"—and contractors agree that it can be used with minimum supervision.

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TRUE, TIGHT JOINTS—Experience proves that masonry units are strongly bonded with Atlas Mortar. Strong walls and tight joints are obtained.



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THE RECORD REPORTS

(Continued from page 318)

the Austrian Ministry of Education, will be open to 30 American and six Austrian students of the junior and senior college level.

All courses will be taught in English by a mixed Austrian-American faculty under the direction of Hans Vetter, associate professor of architecture at Carnegie. Professor Vetter conceived the idea as a result of his recent visit to the

main architectural schools in London, Paris, Amsterdam, Zurich and Vienna and the 1952 Salzburg Festival.

A maximum of 10 credits (five credits of design and five credits of electives) will be offered at Salzburg. The technical courses, such as design, will be taught by American faculty members, while the social-humanistic courses, History of Art, Architecture, Esthetics, Philosophy

and Religion, will be taught by Austrian professors. Field trips to Venice and Paris will be part of the curriculum.

Over-all expenses for the summer school will be approximately \$1000, of which \$500 is for travel, \$200 for tuition, \$200 for room and board, and \$100 for miscellaneous expenses. Students will sail from New York on June 2 and return by September 10.

Applications should be addressed to: Prof. Hans Vetter, Department of Architecture, College of Fine Arts, Carnegie Institute of Technology, Pittsburgh 13, Pa.



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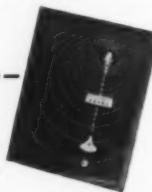
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Scholarships, Fellowships

• Applications will be received at the University of Illinois until May 10 for the 22nd annual Kate Neal Kinley Memorial Fellowship of \$1000 for advanced study of the fine arts in this country or abroad.

The Fellowship is open to graduates of the University of Illinois or institutions of similar standing whose major studies have been in music, art or architecture — design or history. Applicants should be not more than 24 on June 1; but veterans may deduct time spent in service and the committee reserves the right to deviate slightly from the age rule "in the case of very promising candidates."

Basis of award is "unusual promise in the fine arts" as shown by academic attainment in the major field; academic attainment in related fields; "excellence of personality, seriousness of purpose, and good moral character."

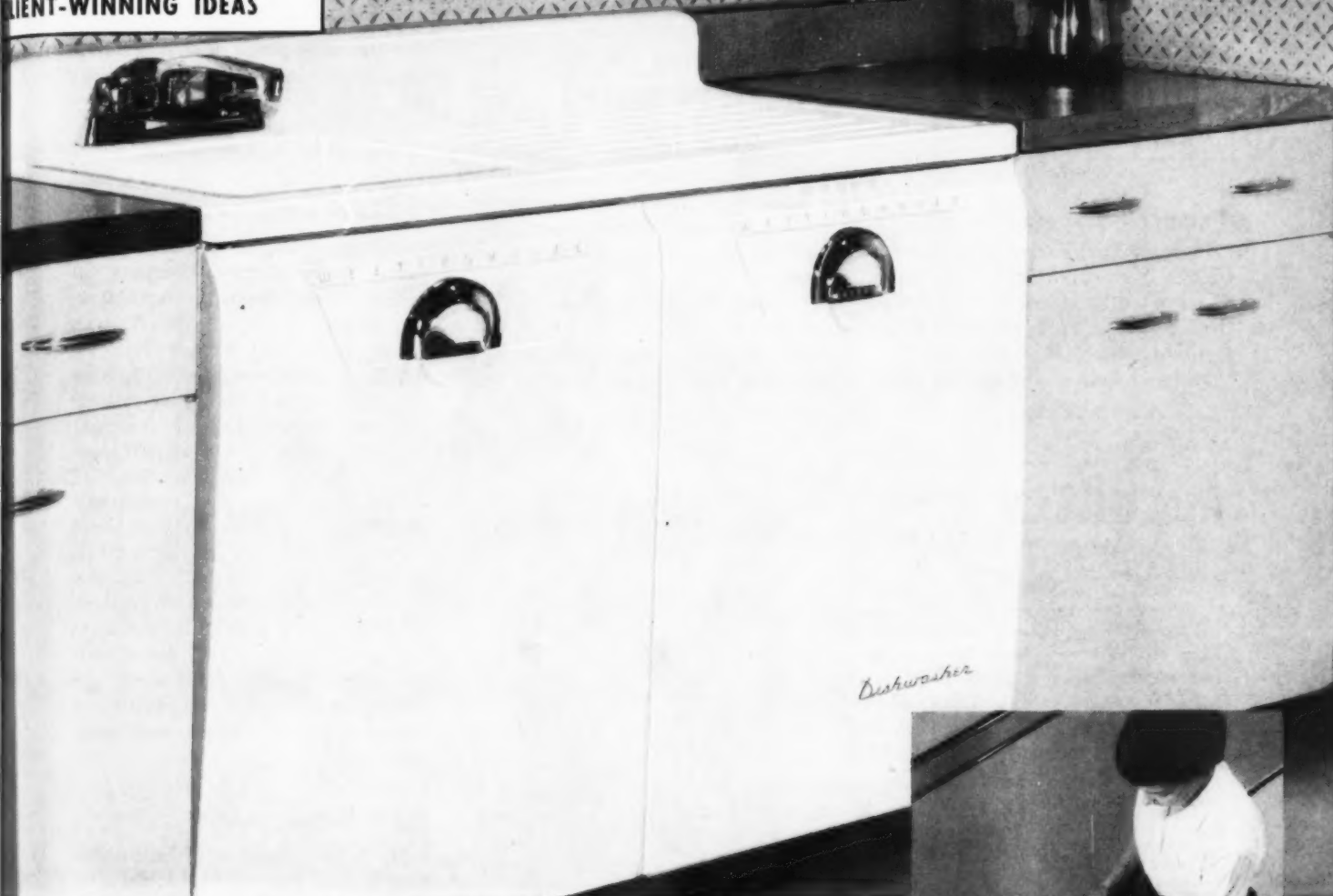
Requests for applications should be addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, Room 110, Architecture Building, University of Illinois, Urbana, Ill.

• Three full scholarships, amounting to \$1500 each, are being offered for the 1953-54 school year by Cranbrook Academy of Art, Bloomfield Hills, Mich.

The annual awards, established two years ago in memory of Eliel Saarinen, first head of the academy, and Mr. and Mrs. George G. Booth, donors of the six nonprofit institutions at Cranbrook, are open to artists in the fields of architecture, ceramics, design, metalsmithing, painting, sculpture, weaving and textile design. Applications should be addressed to Cranbrook Academy, Bloomfield Hills, Mich.

(Continued on page 322)

CLIENT-WINNING IDEAS



NOTICE HOW this Westinghouse Dishwasher-Sink "picks up" the appearance of this kitchen, adds pride-of-ownership.

Add Glamour and Timesaving Convenience with New 1953 WESTINGHOUSE DISHWASHERS

Modern home planning, whether for the custom-designed or speculative builder markets, calls for greater ingenuity than ever before.

You can win quick client approval by planning Westinghouse Dishwashers into your kitchens. It's easy to do! The Dishwasher-Sink combination is only 48 inches wide, is also available without porcelain sink and drainboard for installation under custom-designed work surfaces. There is also a 24-inch Cabinet model with porcelain top and a 24-inch Under-Counter model.

Their front-opening, top-loading

design makes more counter work surface available, gives greater capacity for washing more and larger pieces, pots and pans. Clients will particularly like the perfect washing and drying action that gets dishes, glassware, sparkling clean and sanitary. You'll both benefit from the easy, low-cost installation which permits use of one drain line and trap for both sink and dishwasher. And, because the appliance is plumbed in, it becomes part of the mortgage package. Contact your Westinghouse Distributor for complete specifications and installation data, or write direct:

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UNDER-COUNTER MODEL fits under standard-height work surfaces permitting full use of counter surface over it at all times. This is particularly important in today's small homes.



COMPANION APPLIANCE is the Westinghouse Waste-Away® for quick, sanitary removal of food waste. Easily installed in all standard sinks . . . of course, it's electric!

YOU CAN BE SURE..IF IT'S Westinghouse

THE RECORD REPORTS

(Continued from page 320)

AWARDS

Brunner Grant for City Study

Professor Paul Zucker of the Cooper Union, New York City, has been awarded the 1953 *Brunner Scholarship*, the New York Chapter of the American Institute of Architects has announced.

Professor Zucker will use the \$2400

grant for his projected book "The Square: Its Significance in City Planning." He plans to study existing squares, both planned and naturally evolved, so that experiences of earlier centuries can contribute to current city planning.

Brunner Scholarships are awarded annually by the New York Chapter for advanced study in some specialized field of architectural investigation "to fur-

ther the development of architecture in the United States." Award of this year's scholarship was made after a detailed evaluation of applications from various sections of the country.

AiResearch Plant Cited

The new expandable plant of AiResearch Manufacturing Company at Phoenix, Ariz. (*ARCHITECTURAL RECORD*, August 1952, page 308), has received one of the *McGraw-Hill Publishing Company's* national citations for "construction of a significant new industrial plant in 1951-52."

The \$5 million plant, for which Howard P. Hess was the architect, was cited for its capacity for speedy expansion with no break in production; full use of expendable materials as the plant is expanded—using movable walls and materials until full capacity is reached; maintenance of work flow efficiency; incorporation of packaged power units independent of one another and of the existing power system; stabilization of factory air pressure and air conditioning system.

R.I.B.A. Gold Medal

M. G. Grey Wornum of London has been awarded the 1952 *Gold Medal of the Royal Institute of British Architects*.

A.I.A. Fellow Honored

John C. B. Moore, F.A.I.A., has been awarded by France the *Legion of Honor* with the rank of Chevalier. The citation mentions his talent in design and the credit reflected upon the Ecole des Beaux Arts, where he received his training.

Sidney L. Strauss Memorial

Maxwell A. Cantor of Brooklyn has received the third annual *Sidney L. Strauss Memorial Award* presented for outstanding service to the New York State Association of Architects "for the benefit of the profession."

Engineers' Annual Award

Thomas A. Kelly, building consultant to the Archdiocese of New York, has received the annual award of the *New York Association of Consulting Engineers*. Mr. Kelly is a civil engineer formerly with the George A. Fuller Company, Building Construction, in Miami, Toronto, Boston and New York.

(Continued on page 324)

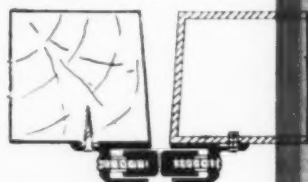
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KEEP DOORS CLOSED

... help eliminate drafts and air currents ... keep out dirt and dust. Made of extruded bronze, aluminum or nickel, they are simple, practical, rugged, easily installed and adjusted. Michaels Adjustable Astragals are available in several styles, two of which are shown below.

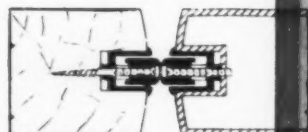
Type A

may be applied to either wood or hollow metal bevel doors, or as a stop bead.



Type E

is for bullnose hollow metal or wood doors (double acting).



Michaels Adjustable Astragals compensate for the expansion and contraction of doors, and close, as nearly as possible, a door of any type. Write today for complete details and prices.

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- Tablets and Signs
- Extruded Thresholds
- MI-CO Parking Meters
- Museum Trophy Cases
- Monument Urns
- Stair Railings

Literature on any or all Michaels products will be sent on request.

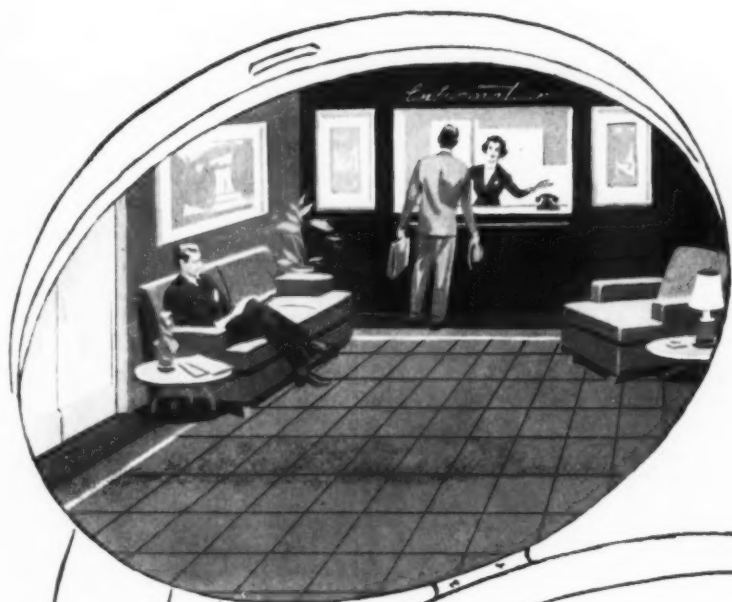
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Adequate *underlayments* give more worth and deeper value to your decorative floor covering . . . provide resilience, shock resistance, sound deadening, better endurance under traffic.

They're made by Flintkote. You simply mix and apply by trowel over any firm base in thin or thick section.

With Flintkote Mastic Underlayments you get a smooth, level base which is ideal for easy and economical tile installation . . . even over old, broken or patched floors.

Choose an asphalt emulsion, rubber latex or resin latex binder underlayment mix to suit the job. Is it over wood, steel or concrete? Above or below grade? Must it be lightweight, more resistant to oil, grease or chemicals?

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Over 50 Years At Your
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THE RECORD REPORTS

(Continued from page 322)

ASHVE Honors McDonnell

Everett N. McDonnell, president of McDonnell & Miller Inc. of Chicago, has been awarded the 1952 F. Paul Anderson Medal of the American Society of Heating and Ventilating Engineers "for outstanding work in the field of heating, ventilating and air conditioning." Mr. McDonnell, a mechanical engineer, was the eleventh recipient of the award; the first was made in 1932.

ELECTIONS APPOINTMENTS

With the A.I.A.

• Chloethiel Woodard Smith of the Washington-Metropolitan Chapter of the American Institute of Architects has succeeded Past President Ralph

Walker of New York as chairman of the A.I.A. Committee on International Relations.

• Raymond S. Kastendieck of Gary, Ind., has been endorsed by the *Great Lakes Regional Council* as its candidate for regional director to succeed John N. Richards, whose term expires in June.

• Lawrence S. Whitten of Birmingham is the 1953 president of the *Alabama Society of Architects*. Other new officers: Farrow L. Tittle, Montgomery — vice president; Allen L. Bartlett, Birmingham — secretary; Paul M. Speake, Birmingham — treasurer; William P. Shaw, Birmingham — director, Southern District.

• Karl Schwartz has resigned the presidency of the *Indiana Society of Architects* and opened a new office at 411 Greeley Building, Greeley, Colo., where he purchased the practice of Sidney G. Frazier, A.I.A. The move was impelled by the health of Mr. Schwartz's elder son, Carroll Beeson, first vice president of the Society and mayor of Crawfordsville, Ind., has taken over as president.

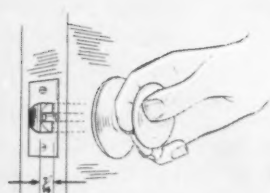
• Rollin S. Rosser is the new president of the *Ohio Society of Architects*. The Society has also elected John W. Hargrave as first vice president; C. Melvin Frank as second vice president; Leon M. Worley as third vice president; Charles J. Marr as secretary; Eugene F. Schrand as treasurer. William Boyd Huff is the immediate past president.

• Amedeo Leone, vice president of the Detroit firm of Smith, Hinchman & Grylls, Inc., Architects and Engineers, has been elected president of the *Detroit Chapter* of the A.I.A. Other officers: Suren Pilafian, vice president; Gerald G. Diehl, secretary; Leo I. Perry, treasurer; and Paul B. Brown, director.

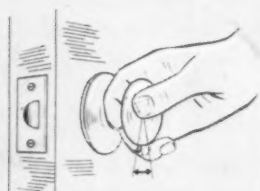
• The *Colorado Chapter* has reelected its 1952 officers to serve another year. They are: James Hunter, Boulder — president; Dudley T. Smith — vice president; Casper Hegner, secretary; and Victor Hornbein, treasurer, all of Denver. New directors are Robert K. Furrer and Gordon Sweet, Colorado Springs.

• New officers of the *Baton Rouge Chapter* were installed at a banquet January 21. John H. Farrens Jr. is president; Percy J. LeBlanc, vice president; John

(Continued on page 326)



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ANOTHER SPECIAL FEATURE BUILT INTO

NATIONAL LOCKset

Patent Applied

Solid brass bolt "throws" a full 7/16" every time. Always a positive strike plate engagement. Bolt has dead latch feature that keeps latch engaged with strike plate. Extra safety!

Engineered relationship between knob and locking mechanism reduces degree of "travel" — only 29° movement required. A plus value.

AMERICA'S OUTSTANDING LOCKSET VALUE

It's the "difference" that makes NATIONAL LOCKset top money-value... an abundance of extra, exclusive features that add up to time-saving installation and home owner enthusiasm. It's the "difference" that will convince you that NATIONAL LOCKset is the best value to specify. Write today for illustrated catalog.



DISTINCTIVE HARDWARE... ALL FROM 1 SOURCE
NATIONAL LOCK COMPANY
ROCKFORD, ILLINOIS
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THE IMPROVED
OVERHEAD TYPE
DOOR

Barcol OVERdoors

While Barcol OVERdoors are distinguished by several mechanical features which make them easier to operate, reduce maintenance expense, and give them a life that is longer than average, we feel there is one feature which is not a part of the door itself, but which is of great interest and importance to you — and that is . . .

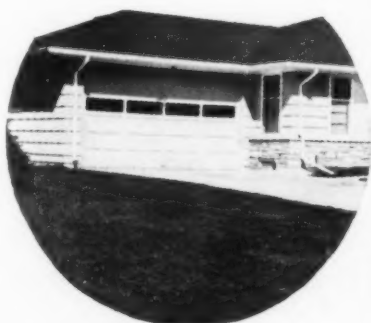
BETTER SERVICE

At every office where Barcol OVERdoors are sold there are one or more men constantly on call to provide repair and maintenance service to all owners of Barcol OVERdoors. These men are *factory-trained* in a course that gives them everything we have learned in the last twenty years about how to fix Barcol OVERdoors that may be damaged or out of adjustment — and how to provide preventive maintenance that can greatly lengthen the life of any door. This important service is a distinctive feature that is *available to you* as soon as you buy a Barcol OVERdoor, and as long as you own it.

What this means to you...

In effect, what we are doing is not only to make a good door for you in the first place, and then to see that it is properly installed, but also we are providing a reliable arrangement so that *you can get the most out of your door.*

FACTORY TRAINED SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES



BARBER-COLMAN COMPANY

102 MILL STREET

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ILLINOIS

THE RECORD REPORTS

(Continued from page 324)

F. Wilson, secretary; and Carl R. Deen Jr. as treasurer.

• Donald Campbell is the new president of the *San Diego Chapter*. Other new officers: Victor L. Wulff Jr., vice president; Richard L. Pinnell, secretary; Edward G. Holliday, treasurer; and Louis Dean, the retiring president, treasurer.

Among the Engineers

• Reg F. Taylor, Houston, Tex., consulting engineer, has been elected 1953 president of the *American Society of Heating and Ventilating Engineers*. Mr. Taylor succeeds Ernest Szekely, president of the Bayley Blower Company, Milwaukee. Other officers elected at the ASHVE convention in Chicago late in

January were: L. N. Hunter, Johnstown, Pa. — first vice president; John E. Haines, Minneapolis — second vice president; and John W. James, Chicago — treasurer.

• Paul E. Jeffers, consulting structural engineer of Los Angeles, was reelected president of the *California State Board of Registration for Civil and Professional Engineers*. George L. Sullivan, dean of engineering at Santa Clara University, was reelected vice president.

• Burnside R. Value of the engineering firm of Seelye, Stevenson, Value & Knecht has been elected president of the *New York Association of Consulting Engineers*, succeeding J. F. Hennessy of Syska & Hennessy Inc. The association is an organization representing over 40 firms in the New York metropolitan area.

Miscellany

• John McC. Mowbray of Baltimore has been elected president of the *Urban Land Institute*. Also elected were Robert P. Gerholtz, Flint, Mich. — first vice president; and Waverly Taylor, Washington, D. C., second vice president.

• Charles B. Shattuck of Los Angeles has succeeded Joseph W. Lund of Boston as president of the *National Association of Real Estate Boards*.

• Harold S. Osborne of Montclair, N. J., has been elected president of the *Regional Plan Association* to succeed Paul Windels, president since 1943. William E. Speers of Mountain Lakes, N. J., was elected vice president. Reelected as vice presidents were Thomas S. Holden, president of F. W. Dodge Corporation, New York, and C. McKim Norton, the association's executive officer.

Whether you're recommending a new floor, or the refinishing of an old one, after the job is done, specify the MULTI-CLEAN METHOD of floor care for a longer lasting, more attractive, easier-to-keep-clean floor.

THE MULTI-CLEAN METHOD is a simple cost saving procedure that assures continuous new life to all types of floors and provides a lustrous, anti-slip surface. Many report savings of 50% and more on their floor maintenance costs since using the Multi-Clean Method. Investigate all the advantages and we believe you'll be anxious to specify MULTI-CLEAN floor care on your next job.



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A finger tip reference file presenting floor characteristics and instructions for the proper care of every type of floor.

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Send me the AIA file, also more information on the Multi-Clean Method.

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Address _____

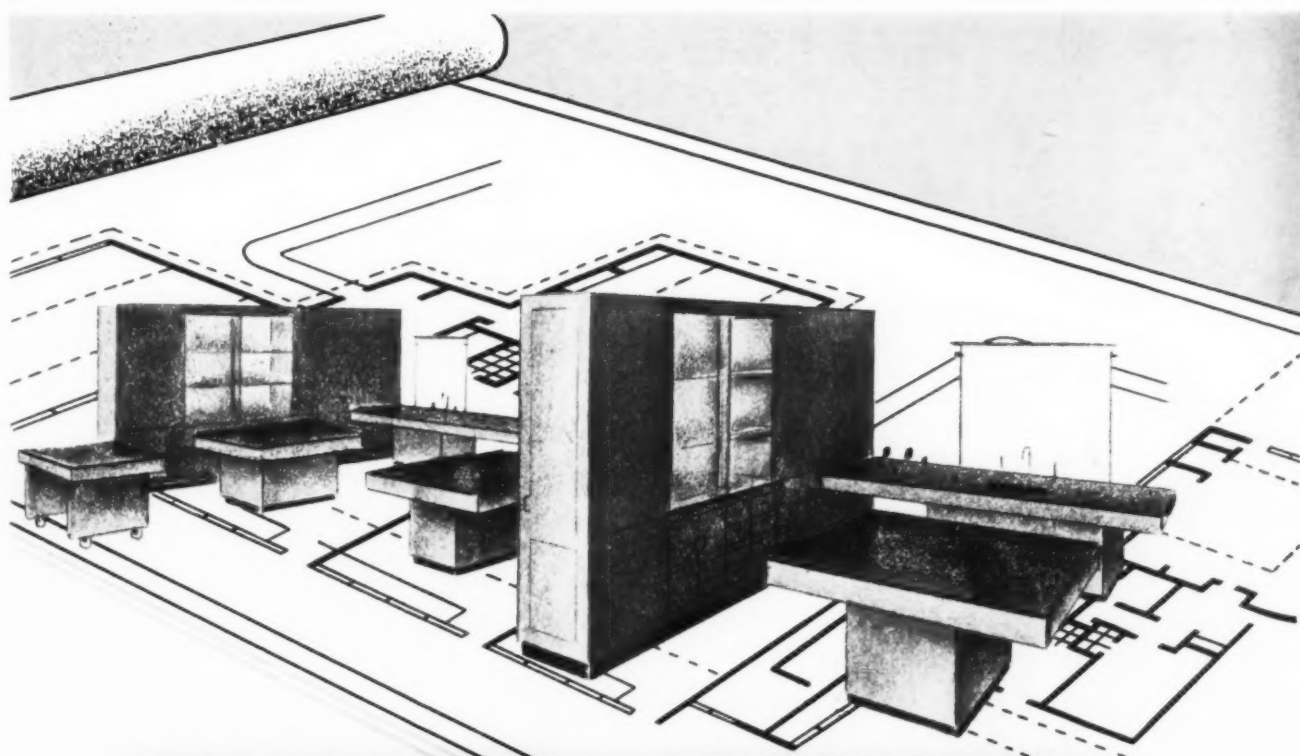
City _____ Zone _____ State _____

THE MULTI-CLEAN METHOD: The Only Complete Floor Maintenance Program Available Thru Authorized Distributors Everywhere.

CORRECTION

The RECORD regrets its error in listing architectural credit for the 95th Street Elementary School, Milwaukee, Wis. (November 1952, pages 149-150). The credit should have read: Architects — Darby, Bogner & Associates; Fritz von Grossman; Brimeyer, Grellinger & Rose; and Board of School Directors, Sam Sutherland, architect.

(More news on page 328)



Your laboratory plans produce outstanding results with this simple, 3-step method

1. Contact a Professional manufacturer of laboratory equipment while plans are still at the preliminary stage. Let an experienced representative of this firm contribute to the solution of your problem knowledge gained through years of laboratory planning.

This entire question of laboratory planning and purchasing has been explored in *Better Laboratory Planning*, an attractive new booklet published by Scientific Apparatus Makers Association. Thoroughly readable, and illustrated with numerous photographs of outstanding laboratory installations, *Better Laboratory Planning* belongs in every architect's reference library.

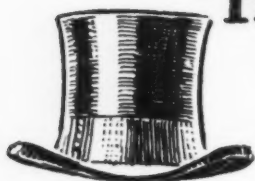
If you have not received your copy it can be secured by writing to—

2. Prepare separate specifications covering laboratory equipment, or have these made a separate section of the general construction specifications. This permits Professional manufacturers to consider those portions of the job they are especially equipped to produce.
3. Secure direct bids from Professional manufacturers to the owners, or, when indicated, to the general contractor. In this way you receive the full benefits of specialized manufacturing facilities, volume production of standard components and thoroughly trained installation personnel. 1, 2, 3—that's all there is to it!

LABORATORY EQUIPMENT SECTION

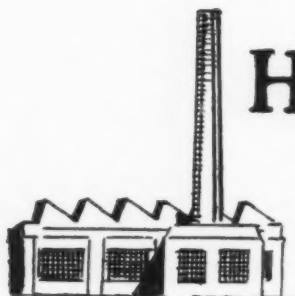
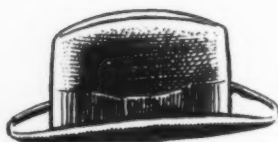
Scientific Apparatus Makers Association

20 North Wacker Drive • Chicago 6, Illinois



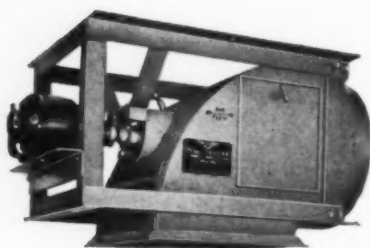
**High Hats
are out
of date**

**now—
it's the
Homburg**



**High Chimneys,
too, are out
of date**

**now—
it's the
WING
DRAFT INDUCER**



Why? Because your heating plant can have positive, adequate, uniform draft without the need for tall, unsightly, expensive stacks. Unlike variable chimney draft, the Wing

Draft Inducer gives perfect motorized draft in any weather. It cuts fuel costs by giving higher CO_2 's. Smoking is reduced or eliminated. The capacity of your boiler plant is increased.

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TURBINES

THE RECORD REPORTS

(Continued from page 326)

NAVY BUILDS LAB FOR RADIOLOGICAL DEFENSE

The only laboratory devoted solely to research on defense against atomic weapons will soon have a new home in a windowless building in San Francisco—but the Navy decision to eliminate windows was made not as a move toward protective construction but to get maximum wall storage space. No effort has been made at blast-resistant design.

The six-story structure was designed by Leland S. Rosener, San Francisco architect. Exterior walls are reinforced concrete, curtain-type, on steel frame. Most interior partitions are of the portable metal noncombustible type.

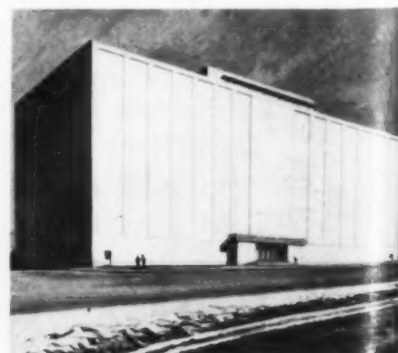
Structure Provides Shielding

Shielding is developed by use of the reinforced concrete wall structure and by ceiling and floor depth.

The building, to measure 308 by 107 ft, will contain 200,000 sq ft of floor space; provision was made for expansion and a change order on the contract already has been issued for a portion of a 200-ft extension. The site measures 700 ft the long way, allowing for still further extension if necessary.

Because of the complicated utilities service required, it is furnished through ducts to be built into ceiling suspensions. Air conditioning and other equipment will be located in the penthouse on the roof. Plans call for air flow from corridors into rooms except where a good balance cannot be maintained by this system.

More wall storage space instead of windows: Navy choice for new Radiological Laboratory in San Francisco



(More news on page 330)



Offices when and where you want them...

Johns-Manville Asbestos Movable Walls permit quick, economical space changes — provide modern, efficient offices!

You can rearrange your present space or have new space partitioned off quickly and economically with Johns-Manville Asbestos Movable Walls. There is little or no interruption of normal routine.

These flush-type, asbestos panels have a clean, smooth surface that's hard to mar, easy to maintain . . .

and extra strong to withstand shock and abuse. Also, they are light in weight, easy to install and relocate. The "dry wall" method of erection assures little or no interruption to regular routine.

Johns-Manville Asbestos Movable Walls may be used as ceiling-high or free-standing partitions. The

complete wall, including doors, glazing and hardware, is installed by Johns-Manville's own construction men under the strict supervision of trained J-M engineers . . . responsibility is undivided.

For details about Johns-Manville Asbestos Movable Walls, consult your Sweet's Architectural File, or write Johns-Manville, Box 158, Dept. AR, New York 16, New York. In Canada, write 199 Bay Street, Toronto 1, Ontario.

JM **Johns-Manville Asbestos Movable Walls**

Classrooms at Atkinson elementary school, Portland, Oregon, are 30'x32', spanned by heavy glulam beams cantilevered for canopy. Roof is 2-in. tongue-and-groove decking, with insulation and built-up roof. Acoustical panels are applied to under side of decking. Belluschi and Skidmore, Owings and Merrill, architects.



Better Structural Framing for modern, long-lasting schools

For genuinely economical school buildings nothing equals engineered timber construction. An examination of the modern classroom section above will show you why.

Functional, Low Cost Construction

Simplest possible construction, with no ceiling joists. Beams left exposed, provide impressive appearance.

Resists Destruction by Fire

Heavy timbers and roof decking are among the best of insulating materials, confining fire penetration to 1 inch in 33 minutes of severe exposure. This allows time for orderly evacuation and for firemen to fight the blaze. Consequently in most areas heavy timber construction earns favorable insurance rates.

Permanent— No Costly Maintenance

Glulam beams "stay put" without seasoning action, are free from maintenance problems and expense.

Ask for Illustrated Booklet

Contains fifteen outstanding examples of school construction and authoritative data on timber design. Ask your nearest Timber Structures office for booklet "Modern, Functional Schools," or write us for it.



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THE RECORD REPORTS

(Continued from page 328)

GERMAN RESEARCH CENTER ESTABLISHED BY BATTELLE

Now under construction at Frankfurt-on-Main, Germany, are laboratories which will house a new research center established by Battelle Memorial Institute, American research foundation of Columbus, Ohio. A group of German architects headed by Herr Schoenmakers designed the center, which will cost an estimated one million dollars.

The buildings are being erected on a 16-acre plot presented to Battelle Institute as a gift by the City of Frankfurt. The center will engage in chemical, metallurgical and engineering research as part of a new European program set up by Battelle.

The laboratories will consist of two



Rendering of Battelle laboratories now under construction in Frankfurt, Germany

major buildings, one four-story building 279 by 85 ft and one three-story building 270 by 92 ft; they will be connected by a three-story bridge. Another one-story building, independent of the other units, will be constructed to house heating and pumping equipment.

The four-story structure, of reinforced concrete, will house 12 executive offices, conference rooms, a large library, 48 module laboratories, three large laboratories, a cafeteria and kitchen and—a customary feature in Europe—two apartments for custodians.

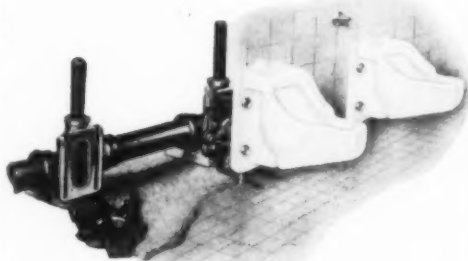
The three-story unit, of structural steel, will include a large process metallurgy laboratory two stories high and serviced by crane; a mechanical testing laboratory, a large service area and 51 module laboratory units.

(More news on page 332)



This Combination

ZURN ENGINEERED carrier systems relieve the wall of all the load! There is a Zurn adjustable wall closet fitting or carrier for every wall-type plumbing fixture—lavatory, toilet, urinal, sink, and fountain.



SHOWN ABOVE is the new wall-type model of the famous Sanistand fixture—a urinal especially designed for women by American-Standard. Made of genuine vitreous china and available in gleaming white and a variety of colors. Fits standard toilet compartments.

Send for these **FREE BOOKLETS**



gives you wider latitude in planning rest rooms

AMERICAN-Standard off-the-floor plumbing fixtures

INSTALLED WITH AND SUPPORTED BY



Engineered Carrier Systems

THE architectural and structural advantages of wall-type plumbing fixtures for rest rooms are sound . . . and many. Planning such rooms around completely bare floors gives you greater freedom of design. Furthermore, rest room floors that are intact and free of obstructions create a pleasing effect of spaciousness. They look more modern . . . and, because they are easier to keep clean and maintain, they stay modern through the years!

Yes, American-Standard wall-type plumbing fixtures installed with and supported by Zurn engineered carrier systems insure against the untimely obsolescence of the rest rooms you plan. In addition, this time-tested combination permits you to lower ceilings, use less space for walls, and use practically any type of floor construction. Your foresight also saves your client money on construction material, time and labor! For a comprehensive discussion of modern rest room ideas, write for the helpful booklets shown below.

American Radiator & Standard Sanitary Corp.
Pittsburgh, Pa.

J. A. Zurn Mfg. Company,
(Plumbing Division) Erie, Pa.

American-Standard, Dept. AR-33, Pittsburgh 30, Pa.

Please send me the 2 booklets: "BETTER REST ROOM GUIDE" and "YOU CAN BUILD IT FOR LESS A NEW WAY."

Name Title

Company

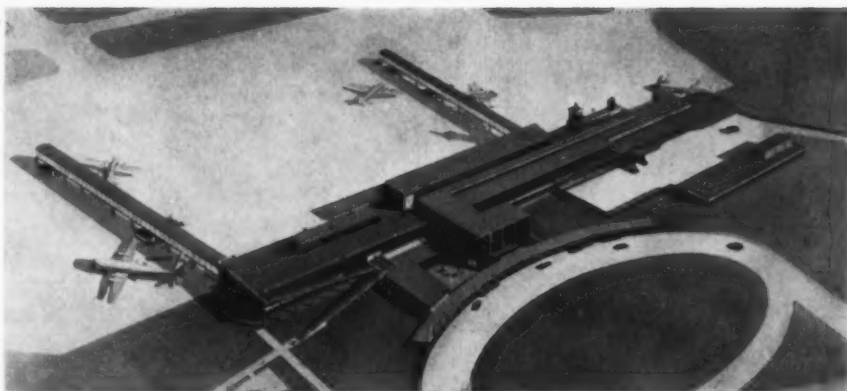
Street City State

THE RECORD REPORTS

(Continued from page 330)

BUILD NEW TERMINAL AT PHILADELPHIA AIRPORT

Philadelphia is building an \$8 million new Terminal Building for its International Airport. Carroll, Grisdale and Van Alen are the architects; A. Ernest D'Ambly, mechanical engineer. Construction is under the general supervision of the



New terminal building at Philadelphia's International Airport is nearing completion at a cost of \$8 million



**Dollars for labor?
Same as with
cast iron soil pipe**

DURIRON ACIDPROOF DRAIN PIPE

The fact that Duriron is installed by ordinary plumbing methods at no added cost is important, of course. But that's only half the story. In most installations where corrosive wastes are to be handled, the first cost of installing Duriron Drain Pipe is the last cost. Duriron, a high silicon iron alloy, provides resistance to corrosion, erosion and abrasion throughout the entire thickness of the pipe wall. It will generally outlast the building in which it is installed. Available also in standard fittings. Write for Bulletin PF/1.

THE DURIRON COMPANY, Inc., 405 North Findlay St., Dayton, Ohio
Available from stock in principal cities

city's Bureau of Engineering, Surveys and Zoning.

An important feature of the building plan is the use of "fingers" similar in appearance and in function to marine piers. In addition to providing a partly sheltered area for craft loading and discharging, they are designed to make it possible for the passenger to board or leave his plane without once stepping out into the elements. Future plans call for the space between the terminal and the plane to be bridged by means of electrically-operated telescoping gang-planks, completely enclosed, with a maximum extension of 40 ft.

An outdoor ramp (see photo below) leading to the observation deck is expected to relieve much of the congestion that results from having to funnel passengers and visitors through the same area, since it completely bypasses the interior of the building.

Pedestrian ramp being built for terminal has snow-melting system of wrought iron pipes to keep 10 per cent slope hazard-free for visitors the year around



(More news on page 334)



WHETHER YOU ARE REMODELING OR BUILDING...

be sure and take advantage of both quality and economy found only in...

Plantation Shutters



Photograph illustrated features shutters hung on a steel casement window. When installing shutters on a window of this type hanging stiles are furnished.

Shutters available in any size, shape or style. Large variety of colors or wood finishes...also unfinished.

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A METHOD FOR FILING AND CONTROLLING KEYS

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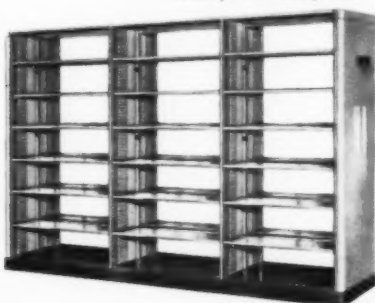
for steel
library stacks
it's *Hamilton*



Absolutely new—

**Hamilton
Compo Stacks**

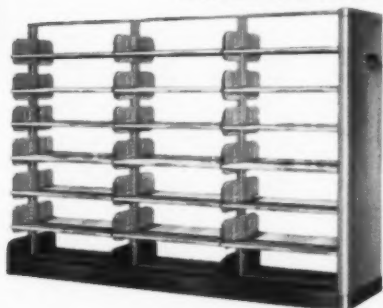
Only Hamilton offers the Compo Stack, an entirely new type of book housing which utilizes a smooth operating drawer type shelf in place of stationary shelves. This ingenious equipment greatly increases stack capacity and utility, makes possible entirely new efficiencies in library operation. Be sure to get further information on Hamilton Compo Stacks.



Functional smartness—

**Hamilton
Continuous
Upright Stacks**

Hamilton Continuous Upright Stacks are used in many of the country's finest libraries. All stack compartments accommodate shelves of various depths for greater flexibility. Simple, speedy vertical adjustment of shelves in $\frac{1}{2}$ " increments insures minimum space waste between shelves, maximum book storage. Closed ends enhance smart, modern appearance.



High on utility—

**Hamilton-
Standard
Stacks**

Hamilton-Standard Stacks owe their popularity to a number of unique, patented efficiency features. Shelf depth adjustments, and shelf height adjustments in $\frac{1}{2}$ " increments can be quickly and easily made. Shelves can be sloped, upward in lower rows, downward in upper rows, to facilitate title scanning. Rounded edges and closed ends eliminate abrasion hazards, create a smart, modern impression.

Whenever your plans involve library facilities you're apt to find a wealth of worthwhile assistance in Hamilton's free Library Planning Service. For further information, write to—

Hamilton Manufacturing Company

Two Rivers, Wisconsin

THE RECORD REPORTS

(Continued from page 332)

32 WIN AWARDS IN \$22,900 CRANE IDEAS COMPETITION

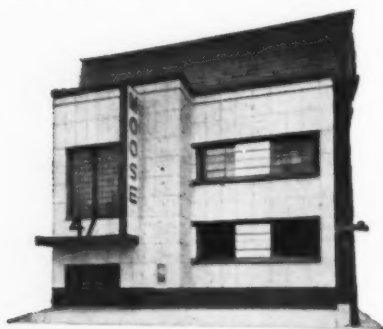
Crane Company's national architectural competition for new ideas in bathroom, kitchen and utility room design has produced 32 prizewinners whose total take in awards amounted to \$22,900. The winners, representing 18 American cities, included 14 architects, 12 architectural students and one professor, three draftsmen and two designers.

Award-winning designs were chosen

in four categories, with bathrooms in two sections — one for houses costing under \$25,000 and one for houses over \$25,000. Awards included four first prizes of \$3000 each, four second prizes of \$1500 each, four third prizes of \$750 each, and 19 honorable mentions of \$100 each.

There were not many design surprises among the entries, although the jury did report it detected "a definite trend par-

More Than A Trend . . . Seaporcel Is Permanent



Any Old Building Can Look as Smart and Modern as This!

TO TRANSFORM an old building into a strikingly modern structure follow the nation's leading architects in the swing to SEAPORCEL porcelain enamel.

LOOK AT this building (above), though no mere black and white picture can do it justice! Yet BEFORE Clifford A. Lake, Pittsburgh architect had it rebuilt with a SEAPORCEL exterior, it looked "sick" and "weather-beaten" . . . badly in need of an overall face-lifting.

The bulkheads, coping and window trim, as well as the upright letters now appear in a soft red terra cotta finish . . . with piers, fascia and sign in unobtrusive buff terra cotta.

WHILE LENDING STYLE and dignity to the structure, there is no question of the recaptured realty value of this restored property.

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complete A. F. of L. Metal
Fabricating & Enameling Shops

For interiors as well
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SEAPORCEL Porcelain Enamel
is the most notable advance
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Fabricated in any shape,
form or section; rounds, com-
pound curves, flutings, reed-
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versatile textures as "Terra
Cotta," in Semi-Matte or
Glass finishes; also our new
"LEATHORCEL" (simulated
leather) finish.

Also manufactured on the
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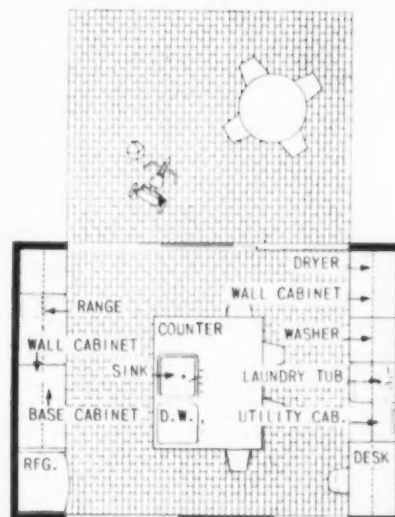
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ARCHITECTURAL
PORCELAIN ENAMEL

Complete Engineering and Erection Departments • Member: Porcelain Enamel Institute



First-prize kitchen design by Richard C. Brigham, Boston architect, was lauded by jury as "simple, direct, compact and practical." Aid to child-play supervision was also noted



ticularly among the baths for homes costing over \$25,000 toward a health use such as sun lamps and exercise areas, in many cases with an adjacent garden."

Portions of all first-prize-winning boards are shown here.

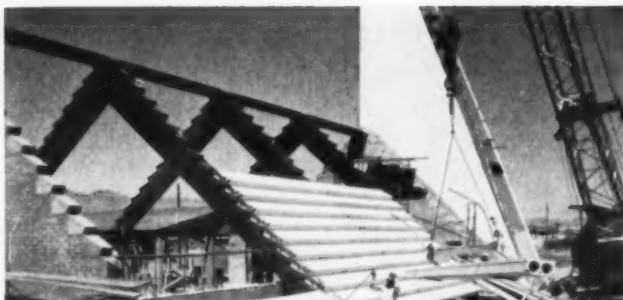
Second- and third-place winners by divisions were:

Bathrooms for low-cost houses up to \$25,000 — second prize, A. M. Richardson, 36, a professor of architecture at the University of Illinois, Champaign, and former chief of design for Skidmore, Owings & Merrill, Chicago; third prize, John J. Kewell, 38, Eugene Kinn Choy, architects, both of Los Angeles.

Bathrooms for houses costing more than \$25,000 — second prize, Joseph R. Fogliani, 27, architectural student at the University of Washington, Seattle; third prize, James Henneberg, 23, architectural student at the University of Illinois, Navy Pier, Chicago.

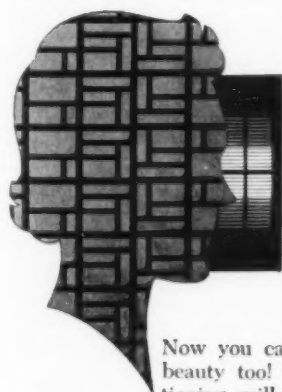
Kitchens for houses in any price range

(Continued on page 336)



Precast Slabs Make Striking Roof

This Arizona church achieved a striking, low-cost design with Flexicore concrete slabs. Precast slabs cost 33% less than an estimated poured roof. They eliminated ceiling plaster as smooth underside of slabs required only painting. Long-span, hollow-cast Flexicore units form lightweight, structurally-sound floors and roofs. For catalog and nearest manufacturer, write The Flexicore Co., Inc., 1770 East Monument Avenue, Dayton 1, Ohio.



a new face for air conditioning

Now you can have your air conditioning and beauty too! Conventional unsightly air conditioning grilles can be eliminated by specifying Hendrick Bulator... the new **dual-unit**. Bulator combines a Hendrick decorative grille with a customary deflecting vane grille to afford both attractive appearance and proper air throw and spread. The secret of Bulator's success is that the combination of both grilles leaves 60% open area and no appreciable loss of air throw efficiency. Vanes of the deflecting grille are adjustable — so that air can be thrown up or down, left or right.

Bulator is available in a wide range of designs and styles to best conform to your decorative motif. For further information write to Hendrick.

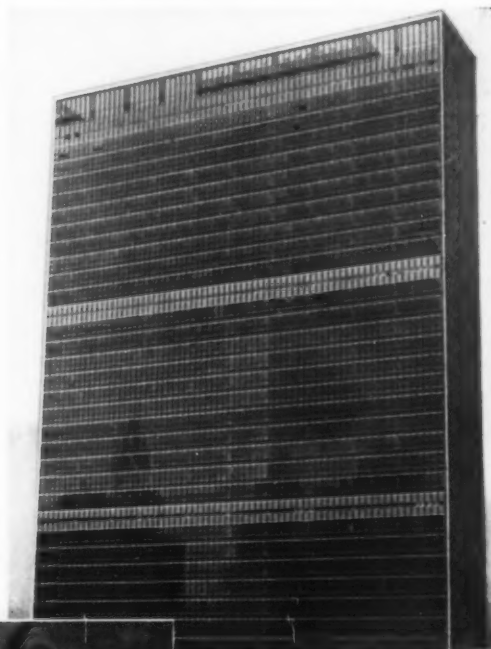
Hendrick

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Fine Veneers Enhance the MODERN



The United Nations Building is an outstanding example of fine veneers and modern form combined to create beauty. We were proud to have been selected as one of the suppliers of the veneer used in the U.N. Building.

The smart applications of veneer in functional design, and the effects one can achieve are almost limitless. There is always a wide selection of veneers available to help you achieve just the effect you desire.

Experienced representatives are located in all major markets. They will gladly assist you on any veneer problem you may have.

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Moonshine Crotch,
walnut veneer



Customers Expect
More From STEM
and They Get It

30 years of experience is your assurance that
the veneers listed below are the finest.

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THE RECORD REPORTS

(Continued from page 336)

paign; Edward Hicks, 30, architect; Kenneth Conrad Naslund, 26, architect, employed as draftsman and engineer by Skidmore, Owings and Merrill, Chicago; Robert W. Wilson Jr., 28, graduate student, University of Illinois, Champaign.

Bathrooms for houses costing more than \$25,000 — Isaac W. Williamson, 45, architect, of Armistead and Saggus, Atlanta; Robert E. Nielsen, 35, architect, of Shreve, Lamb and Harmon Asso-

ciates; Keith A. Jacobson, 23, architectural student at the University of Washington, Seattle; Edward Henry Bullerjahn, 32, designer for the firm of Edward D. Stone, Architect, of New York; Richard Soderlind, 23, graduate student at M.I.T.

Kitchens designed for houses in any price range — Dolly Liang, a United Nations employee who formerly practiced architecture in Kunming, China;

Laurence H. Higgins, 21, architectural student at the University of Illinois, Champaign; Donald W. Bogard, 26, architectural student at the University of Washington, Seattle; J. Lister Holmes, architect, whose design was completed in collaboration with Royal A. McClure, Thomas R. Adkison and Charles Graham MacDonald, all of the firm of J. Lister Holmes, McClure, Adkison and MacDonald, Spokane.

Utility rooms for houses in any price range — Robert E. McConnell, 22, M.I.T. graduate student; Robert Lee Jones, 22, architectural student at Kansas University, Lawrence; Donald Leon Grieb, 34, architect, Milwaukee; Hugh N. Romney, architect, Hawthorne, N. J., with Walter J. Miranda and Jack G. Stewart as collaborators; Jinny Lee Snow, designer, Royal Oak, Mich.

Howard L. Cheney, F.A.I.A., was professional adviser for the competition. Judges were: Alan Brockbank, Salt Lake City, retiring president of the N.A.H.B.; Glenn Stanton, Portland, Ore., president of the A.I.A.; Architect George N. Dahl, Dallas, Tex.; Industrial Designer Henry Dreyfuss, South Pasadena, Cal.; and Architect Royal Barry Wills, Boston.

At the NEW STATLER CENTER Los Angeles, California



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T.M. Reg.
Unitfold®
folding walls



Architects: Holabird, Root & Burgee.
William B. Tabler, Associate.

The modern private dining room above is divided into two rooms by a Fairhurst Unitfold Wall. This Fairhurst installation is notable because:

1. It provides a double wall with 4" dead air space and sound absorbing material to form a highly effective sound-lock.
2. It presents the appearance of a permanent rigid wall without visible hardware

Similar Fairhurst installations in Statler hotels in Boston & Buffalo.

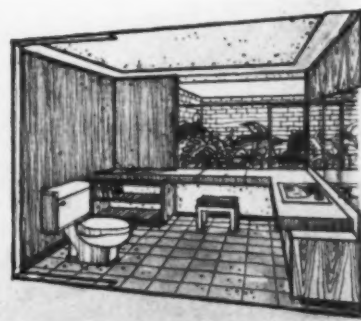
...yet folds quickly and easily to give a completely clear opening between the two dining rooms.

The Fairhurst Unitfold Wall was adapted in cooperation with Mr. William B. Tabler of the Statler organization as a result of his intensive research into the best folding wall for use in the new Hartford, Conn., Statler.

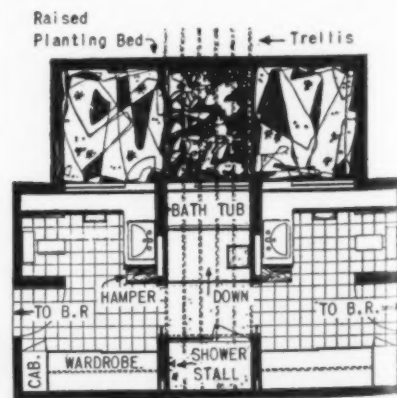
John T. Fairhurst Co., Inc.

45 West 45th Street

New York 36, N. Y.



First-prize bathroom design for over-\$25,000 house by Charles West Jones Jr., architectural student who works for Victor Gruen, Hollywood; jury approved two lavatories and toilets, liked garden

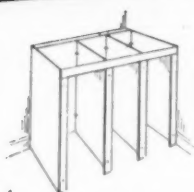


(More news on page 340)



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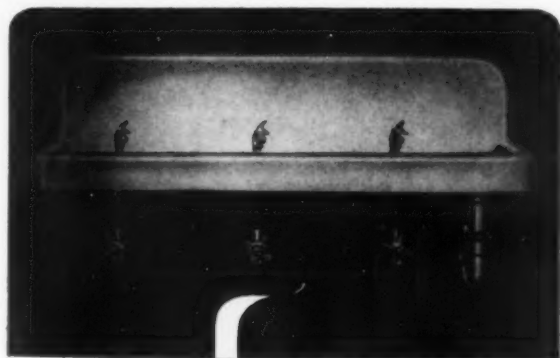
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THE RECORD REPORTS

(Continued from page 338)

CENTRAL POLICE BUILDING PLANNED FOR LOS ANGELES

The Los Angeles Police Facilities Building, planned to bring all the various divisions of the municipal police department under one roof, has achieved distinction in civic annals before construction is even begun — the low bid



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The new police building, with total floor space of 398,000 sq ft, will be on a Civic Center site already owned by the city. It will cover a full city block

tendered, \$6,142,548, was more than \$2 million under the proposed city budget for the structure. Welton Becket and J. E. Stanton are associated architects.

The building, to have a total floor space of 398,000 sq ft, covering a full city block, will be located on a Civic Center site already owned by the city, lying north of First Street between Los Angeles and San Pedro Streets and running through to Market Street.

Police Aim: Integration

All the various departments of the municipal Police Department — now scattered among half a dozen different buildings, often miles apart — will be brought together in the new building; exceptions are a few geographical patrol divisions. The hope is for a closer integration between departments than ever was possible before.

On the first floor of the eight-story structure will be business offices, the information center, communications, traffic division, offices of the Police Commission, a completely-equipped auditorium and stage for "show-ups" and a jail for initial booking procedures.

The felon prison and the Record and Identification Bureaus are on the second floor. The third floor will be occupied by the Detective Bureau. The remainder of the building houses various police bureaus and business offices. The eighth floor will have an employee cafeteria and lounge.

Garage service and parking facilities for more than 850 police cars will be provided by a combination ground and deck area.

Construction will be steel and lightweight concrete.

(More news on page 312)



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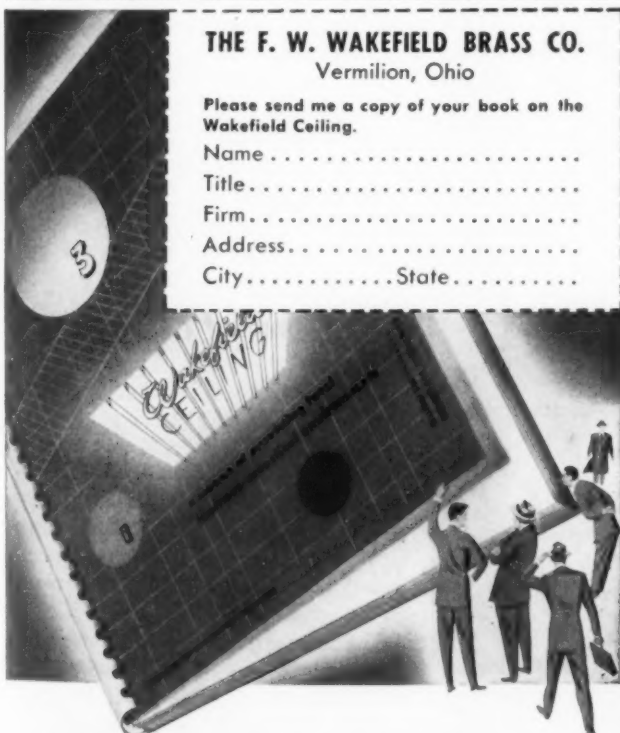
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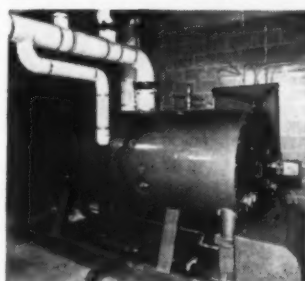


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3-WAY COST SAVINGS ON SCHOOL JOB WITH STEAM-PAK GENERATOR



Above — Entrance to the new Essex County Colored School, Tappahannock, Va., which is the first unit of a consolidated school unit.



Left — Model SPL-50-5 Steam-Pak Generator, manufactured by York-Shipley, Inc., York, Pa., installed in school boiler room. Space provided for two more boilers when additional units of school are added.

TAPPAHANNOCK, VA.

— The new \$205,199 Essex County Colored School, which was opened here last fall, is heated by a 50-hp. low pressure Steam-Pak Generator which was selected because it offered three-way cost savings.

"The Steam-Pak Generator was selected because original building costs were reduced by omitting the stack, installation costs were lower because of simplicity of hook-up, and, most important, for economy of operation," J. Henley Walker, Jr., Architect of Richmond, Va., reported.

The new school building is the first unit of a consolidated school and includes 10 classrooms, library, general purpose and cafeteria room, kitchen, office suite and clinic. Addi-

tional units planned for the school are six more elementary classrooms and high school facilities. Space has been provided in the boiler room for additional steam generators.

The heating system was installed by Virginia Plumbing & Heating Co., Inc., Richmond, Va., for Howard Mitchell, Richmond, Va., general contractor. The Steam-Pak Generator was sold by Pelouze Sales Co., Hillcrest Bldg., Richmond 19, Va., distributor.

Other new Virginia schools which have installed Steam-Pak Generators, according to Henry L. Pelouze, manager of Pelouze Sales Co., include Carter G. Woodson Elementary School and Hopewell High School Gymnasium, Hopewell; Walker-Grant and James Monroe High Schools, Fredericksburg, and Dunbar, Booker T. Washington, and Bankhead Magruder Schools, Newport News.

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THE RECORD REPORTS

(Continued from page 340)

IBM PLANS CENTER FOR ELECTRONICS RESEARCH

Construction will get under way this spring on a research center for International Business Machines Corporation at its Poughkeepsie, N. Y. plant. The center will provide centralized facilities for the company's widespread electronics

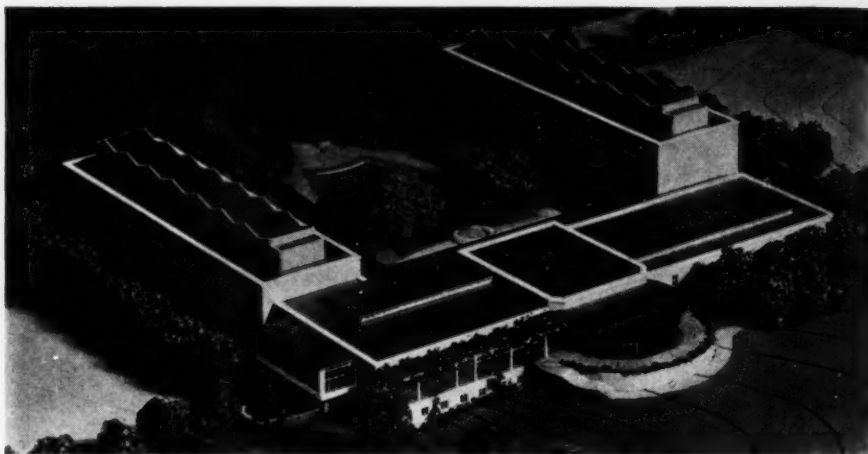


Photo of model of IBM's projected research center near its Poughkeepsie, N. Y. plant. The center will provide some 179,000 sq ft of space for an estimated 750 employees

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research program. Voorhees, Walker, Foley & Smith are the architects.

The laboratory space is designed on a module which includes a window, artificial illumination, heating, ventilation, air conditioning and laboratory services so that units may be regrouped to form various amounts of space to serve the needs of particular projects.

Individual controls for regulating both winter heating and summer cooling will be available to provide comfortable working conditions despite varying laboratory requirements.

Auditorium for Conversation

Facilities for technical meetings and demonstrations will be provided in an auditorium seating 150, with space for additional movable seats. The acoustic design of the auditorium is such that voices at conversation level will be heard without echo in all parts of the room. The auditorium will be equipped with a projection screen; and equipment to be discussed and studied will be raised from the basement level by means of a hydraulic elevator in the stage platform.

The center will be built of steel, reinforced concrete and brick, with stone-paved terraces. It will have its own boiler plant, sewage disposal system, water storage tank and refrigerator plant for air conditioning.

The main entrance will be through a Hall of Products, where, behind a glass wall facing the entrance road, the company's products will be displayed. The connecting corridor between the two wings, which also gives access to auditorium, lounge and cafeteria, will be used as a gallery for display of engineering models.

(More news on page 344)

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THE RECORD REPORTS

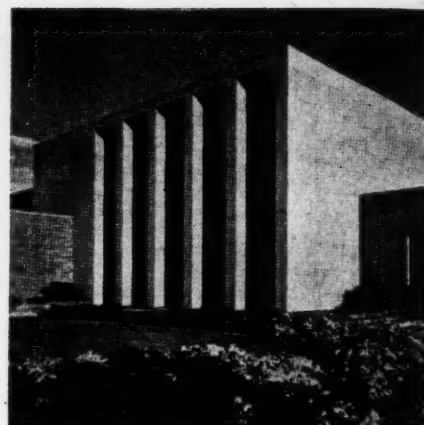
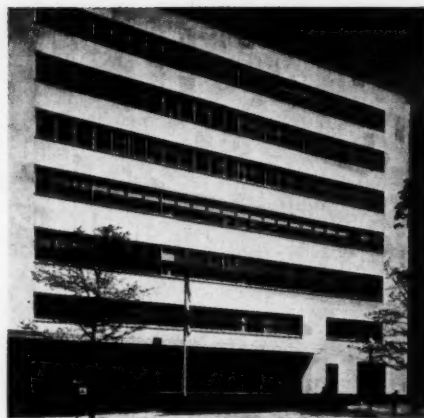
(Continued from page 342)

PERIODICAL REPORT

Architectural Design

December 1952

The office of Albert Kahn, Associated Architects and Engineers, Inc., Detroit, is the subject of a six-page article by Mark Hartland Thomas in this issue.



Two Kahn buildings reviewed: Left, Washington Post building; Right, Lincoln-Mercury plant, St. Louis, Mo.

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Mr. Thomas is principally concerned in his examination of the firm with its working methods and their similarities and differences in respect to normal British practice. He finds the chief difference—of which the technique of "freezing" the design before working drawings go out is one aspect—attributable to the firm's specialization in industrial design. After outlining some particulars of Kahn's working methods, Mr. Thomas comments:

"... note that everyone is committed as each stage is agreed. The engineering sections develop their part at the same time as the architectural: they do not have to wait for architectural drawings and to cramp their work to fit into purely architectural ideas. This way of working presupposes a large measure of standardization of ideas within the office: it cannot afford that one section should surprise the others with a brilliantly unusual solution. The general run of Kahn architecture bears out this view: it is always immensely competent and always well-mannered, but never thrilling, except sometimes by mere size. They only fumble when, on rare occasions, they have been overpersuaded to take on a commission for some monumental building, which they would be the first to admit is outside their proper scope."

The article is illustrated with examples of the firm's more recent work, including the Washington Post Building, the Engineering Building for Pontiac Div. of General Motors, the Clark Equipment Co. machine shop and offices, Jackson, Mich., the Lincoln-Mercury Assembly Plant at St. Louis, Mo., and the rotogravure building for the Philadelphia Enquirer.

(Continued on page 346)



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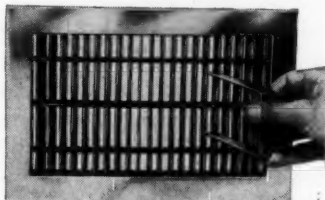
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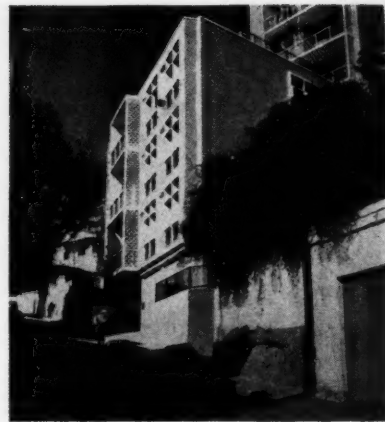
THE RECORD REPORTS

(Continued from page 341)

Techniques & Architecture

No. 1-2, 12th Series

The entire contents of this issue of the French review are dedicated to architecture and planning in Algeria. Articles on various aspects of Algerian topography, climate, resources, economy and other factors affecting planning are



House, left, and apartment building, right, typify modern Algerian work



- 1 - STANDARD STEEL CHALKBOARD TRIM
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contributed by a number of experts in these fields. Algerian buildings are shown in photographs and plans. These include residences, apartments, hospitals, schools, industrial buildings and sports facilities. A bibliography of works on Algeria is included.

L'Architecture Francaise

No. 129-130, 1952

This month, the French periodical devotes its pages to a complete presentation of an exposition for school construction organized by the *Ecole Nationale Supérieure des Beaux Arts* for the Ministry of National Education. The exposition was comprised of presentation panels with photographs and plans of completed or projected school and university buildings. Each of these is reproduced here exactly as it appeared in the original exhibition. A preface to the presentation is contributed by André Marie, France's Minister of National Education, and André Cornu, secretary of the government's Bureau of Fine Arts, contributes an article on "The Architects and the Problem of School Construction." Heads of the various departments of the Ministry of Education are represented by articles on their special provinces, including discussions of problems involved in planning elementary, secondary, tertiary, and technical schools, school libraries and facilities for physical education.

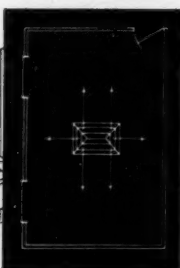
Interiors

December 1952

A portfolio of architectural work from Italy is featured in this issue of the monthly American periodical. Collected

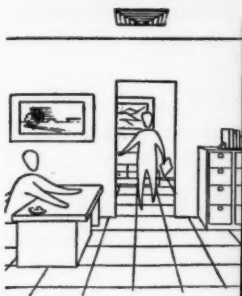
(Continued on page 348)

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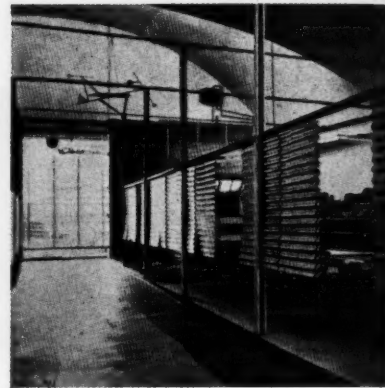
Dominion Square Building, Montreal, Quebec

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THE RECORD REPORTS

(Continued from page 346)

by the magazine's art director, Roberto Mango, it includes commercial and residential work by Gio Ponti, Belgioioso, Peressutti & Rogers (of the firm B.B.-P.R.), Marco Zanuso, Angelo Mangiarotti, Carlo Mollino, Mario Righini, Mario Tedeschi and Vito and Gustavo Latis. The pictorial material is accompanied by a descriptive and evaluative



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Italian buildings in magazine's portfolio include *Filiale linoleum* showroom, left, Marco Zanuso, architect, and, at right, combined offices for *Domus* magazine and the architect, Gio Ponti

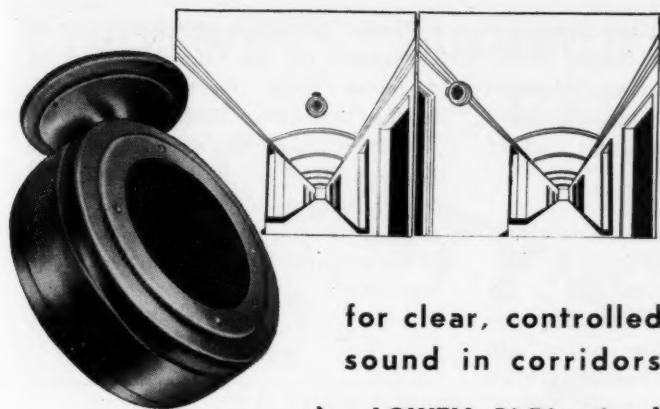
text written by the magazine's managing editor, Olga Gueft. More Italiana in the same issue: an article on the Olivetti Company, Italian business machines manufacturer. The article was written by Deborah Allen and was based on the Museum of Modern Art's recent exhibit concerning the company and its products.

BRIEFLY NOTED

• "Town Planning and Architecture as an Expression of their Time," a paper delivered by W. M. Dudok before the Société Belge des Urbanistes et Architectes Modernistes, is reprinted in the November 1952 issue of the *Journal of the Royal Architectural Institute of Canada*. Mr. Dudok outlines in the paper his theories and practices concerning both architecture and town planning in relation to the problems presented to the practitioner today.

• The Dutch artist F. Vordemberge-Gildewart contributes an article on Art Nouveau to the December 1952 issue of the Dutch magazine, *Forum*. The article discusses the problems related to the establishment and development of the forces which began around the turn of the century to influence the course of modern art and architecture. Photographs show examples of work by van de Velde, Gaudi, Olbrich, Louis Tiffany,

(Continued on page 350)



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THE RECORD REPORTS

(Continued from page 348)

C. R. Mackintosh, Guimard, Munch and others who shared in the movement.

• Francesco Borromini, the pioneer Baroque architect who was breaking Renaissance planes and deliberately undulating walls back in the seventeenth century, receives a tribute from Nils

Erik Wickberg in an article which appears in *Arkkitehti-Arkitekten*, 9-10/1952. The article is entitled "Homage to Borromini" and is illustrated with photographs of his work and that of some of his successors.

• Prizewinners in a modern house competition sponsored by the Japanese magazine *Sinkentiku* are presented in the November 1952 issue of the magazine and afford an interesting insight into aspects of contemporary residential work being done in that country.

• Phoebe B. Stanton contributes "Some Comments on the Life and Work of Augustus Welby Northmore Pugin" to the December 1952 issue of *The Journal of the Royal Institute of British Architects*. The article is a transcript of a talk delivered to the R.I.B.A. library group, and some discussion by members of the group is appended to the text of the talk.

AMERICANS ABROAD

• *Domus* for November 1952 again features a considerable amount of American work. Included in the issue are presentations of the Six Moon Hill project at Lincoln, Mass., by the Architects' Collaborative; Mies van der Rohe's recent apartment houses in Chicago; Jose Luis Sert's country house for himself on Long Island; and views of Alvin Lustig's New York apartment, which he designed for himself. The Lustig article includes illustrations of the designer's work in typographical, furniture and industrial design.

Still another article in this issue of *Domus* touches upon matters American in a more indirect manner. This is a presentation of a "children's village" on the outskirts of Trieste, by Marcello D'Olivio, architect. The article is entitled "Architecture in the Wake of Wright," and the building shows an influence clearly discernible, although seemingly not mere copy-book.

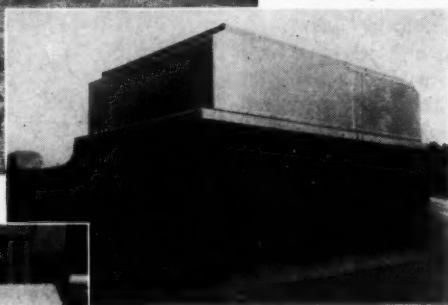
• Addenda to any F.L.L.W. bibliographies: *Cortijos Y Rascacielos*, No. 72, 1952, includes a short article illustrated with photographs of "Falling Water" and the Goetsch-Winkler house (one of the "Usonian" houses). *Building Digest*, December 1952, has an article on the Johnson Wax research tower. The Norwegian magazine *Byggekunst*, No. 10, 1952, prints an essay by Wright entitled "Organic Architecture Looks at Modern Architecture." This is a reprint in translation of the article which originally appeared in *ARCHITECTURAL RECORD*, May 1952.

• *Byggekunst's* same issue also contains an article on the U.N. buildings in New York. The article is written by Arnstein Arneberg, the architect who is responsible for the interior of the Security Council chamber in the Conference Building.

(More news on page 352)

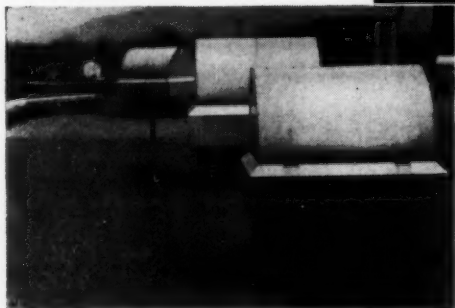


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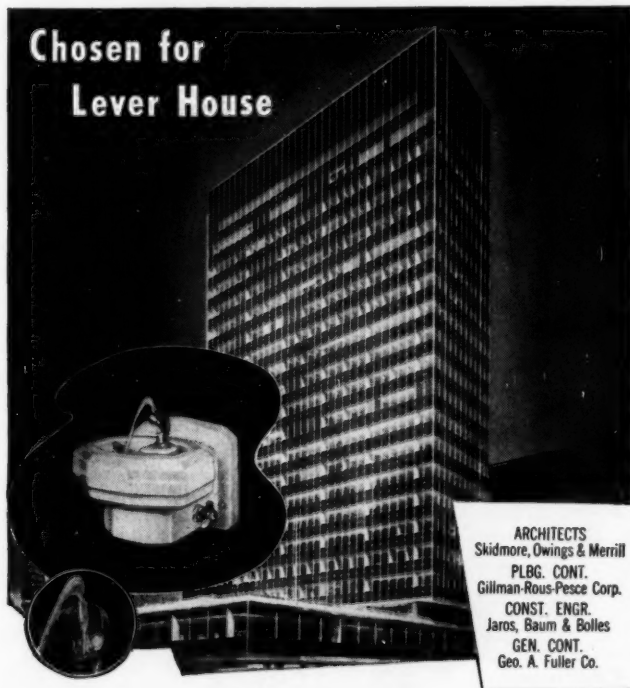
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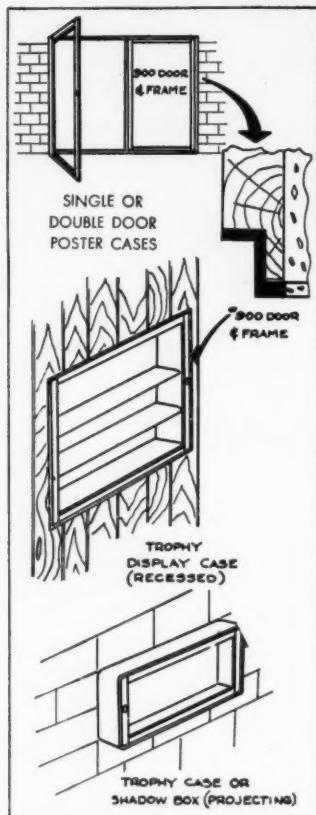
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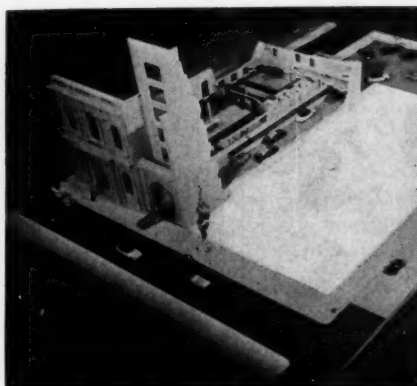
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THE RECORD REPORTS

(Continued from page 350)



Model of First National's projected new drive-in bank has been on display at the bank's main office in Philadelphia. Walls and floors are cut away to show drive-way, new main banking floor and parking

PARKING SOLUTION: BANK REMODELED AS DRIVE-IN

Drive-in facilities are a major feature of an extensive remodeling program which will more than double the size of the First National Bank of Philadelphia's downtown office at 315 Chestnut Street. Trautwein & Howard of Philadelphia are the architects.

A two-lane, street-level driveway under the upper floors will be entered from Chestnut Street. On the left side of the drive, which will be radiant-heated, will be four teller's windows set into an expanse of glass 110 ft long and giving a view of the main banking floor. Exit will be into Third Street, which parallels Chestnut. At the rear of the drive will be a parking area for customers who wish to go onto the main banking floor or to offices, elsewhere in the building, handling specialized services.

Bank officials said the drive-in facilities were intended to solve "a worsening parking problem which all over the country threatens to compel customers of center-city banks to do their banking in less congested areas."

Major Renovations Planned

The bank's building program, scheduled for completion in the spring of 1954, includes:

1. Demolition of the old Philadelphia Clearing House adjoining the present First National office on the east.

2. Construction of a new six-story

(Continued on page 354)

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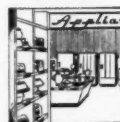
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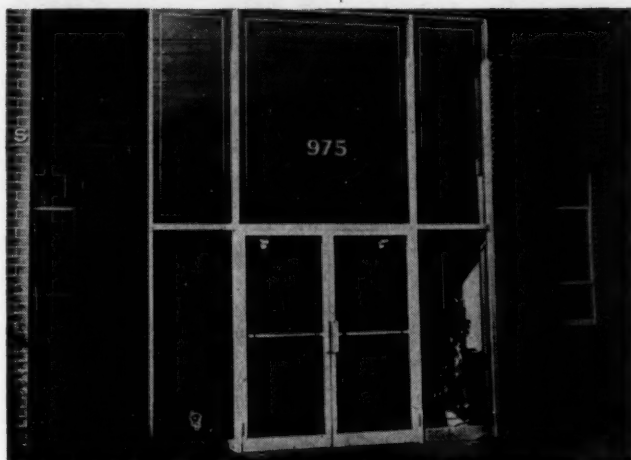
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New *Hamilton* equipment permits against-the-wall planning of school science rooms

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THE RECORD REPORTS

(Continued from page 352)

steel and reinforced concrete building over the drive-in roadway on the Clearing House site.

3. Reconstruction of the interior of the present office, the original part of which dates from 1866.

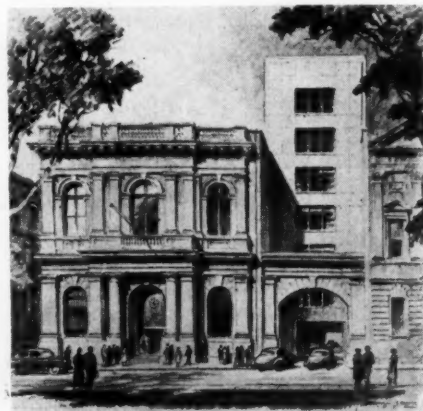
4. Razing of four old three-story buildings at Nos. 26, 28, 30 and 32 Third Street to provide for the exit driveway and parking space for 40 cars.

The new building, together with changes to be made in the old, will allow First National to more than double the present 38,000 sq ft of office space now in the downtown office. Reconstruction of the old building will provide a main banking floor 157 ft long, with stations for 15 commercial tellers along a continuous unobstructed counter. Across the room, behind a partition of low, built-in upholstered seats, will be offices for the bank executives. Behind the main-floor tellers, across an area centralizing all teller activities, will be the tellers serving the drive-in customers.

Drive-In Facilities

The driveway going into the building will be shaped like a smoking-pipe lying on its side. The bowl section to the right of the stem at the rear is the exit drive with parking areas on either side. Along the 277-ft stem the four teller's windows will be set 34 ft apart in bullet-proof glass tilted to eliminate glare. Customer and teller will communicate via a two-way address system; a drawer operated by the teller will extend to take customer's deposits or packages.

The façade of the old building, of Quincy granite, will be retained. New building will set back 15 ft from old building line



(More news on page 356)



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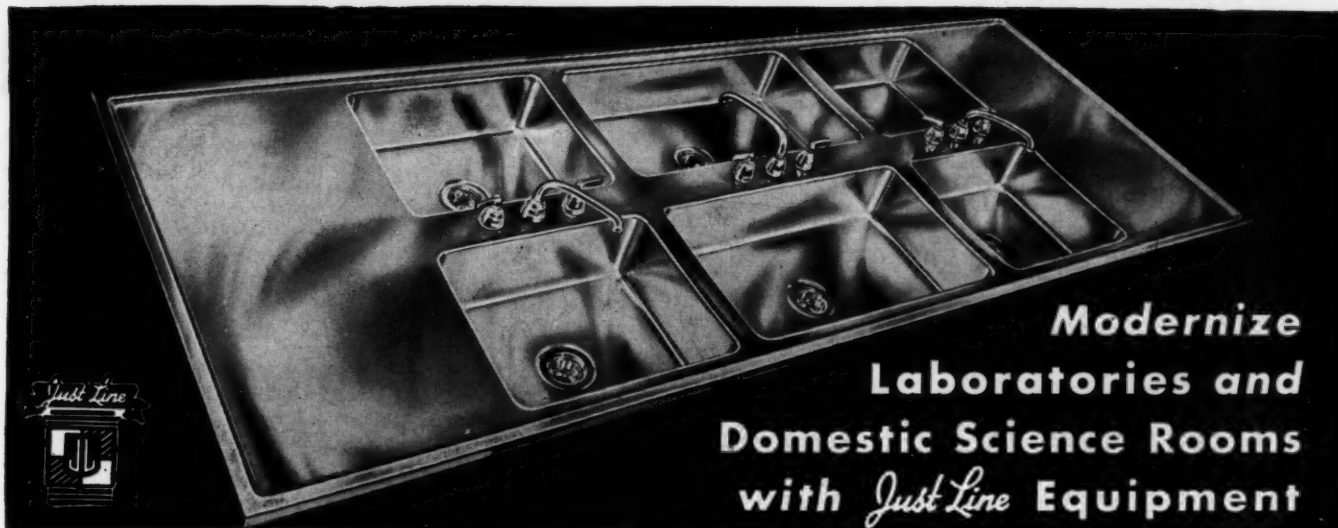
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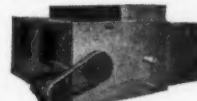
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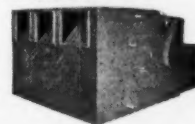
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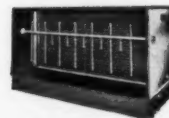
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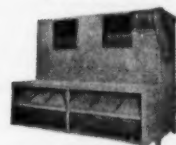
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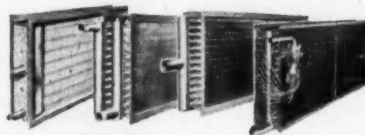
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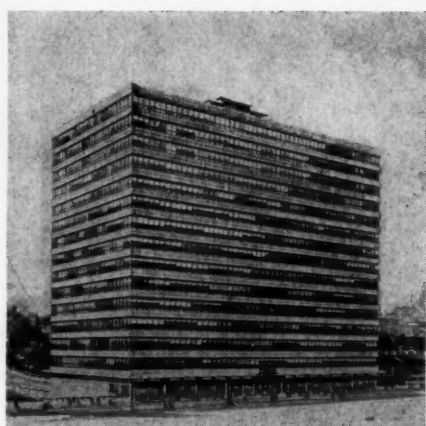
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THE RECORD REPORTS

(Continued from page 354)



STEEL STILTS SUPPORT IT

Jersey City's first new skyscraper in several decades will straddle the tracks of the Journal Square station of the Hudson-Manhattan Tubes in the heart of the city. The 15-story building, designed by Vincent J. Cerreta, Jersey City architect, will go up on steel "stilts." For maximum space use on every floor, the utility core has been placed in the center of the building. Floor area will be about 300,000 sq ft; cost about \$6 million

ANOTHER "ALUMINUM" BUILDING

The new \$6 million State Office Building which has just been completed for the State of Missouri in Jefferson City, is designed in aluminum. Exteriors are insulated skin walls with aluminum facing approximately five in. thick. The frame has reinforced concrete flat slab design throughout. The building is completely air conditioned. Architects-engineers: Office of Marcel Boulicault, St. Louis

Massie-Missouri Resources Div.



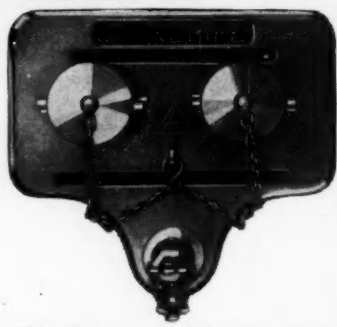
(More news on page 358)

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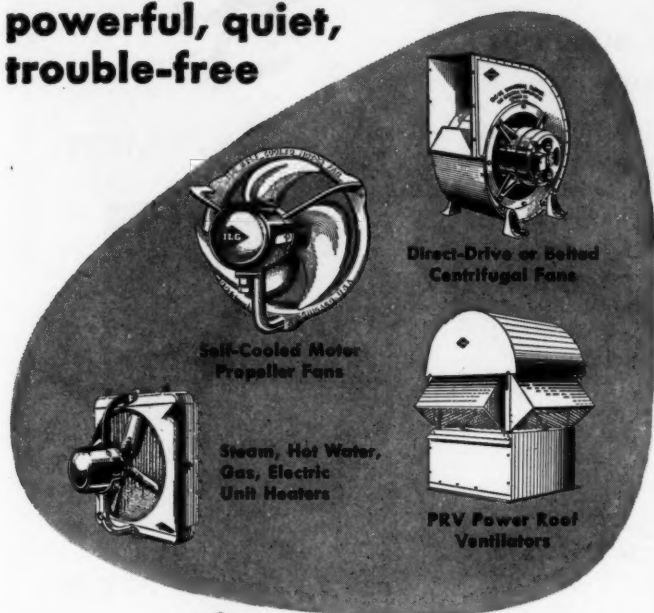
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powerful, quiet,
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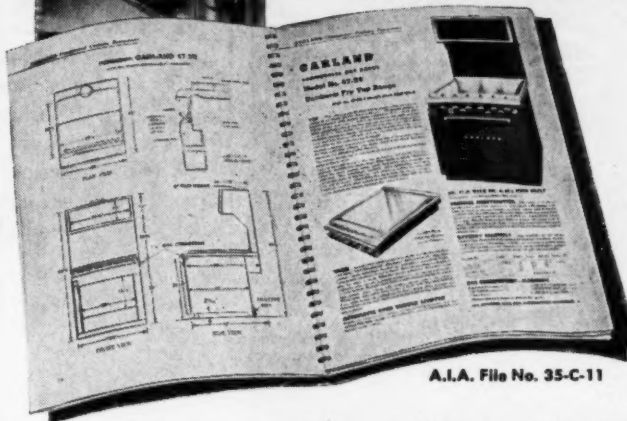
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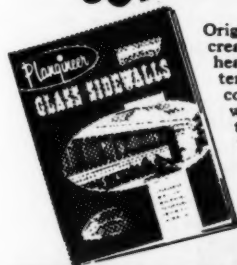
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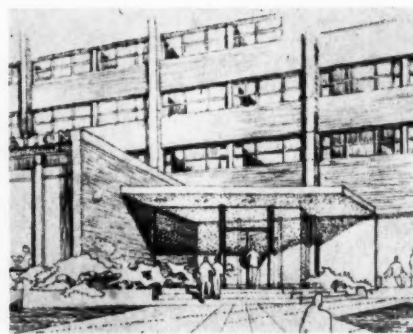
(Continued from page 356)

UNIVERSITY "Y" BUILDING UNDER WAY AT WISCONSIN

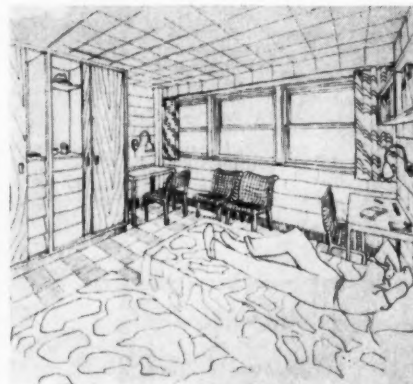
The Young Men's Christian Association of the University of Wisconsin has started the building shown here: four floors are being built in the first phase; it is hoped the other three can be added soon. Exteriors are concrete, white and red brick; interior finishes include exposed red brick, painted concrete block, natural wood and plaster.



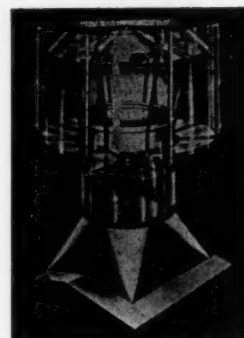
Proposed university Y.M.C.A. building



Above: sketch of the main entrance;
below: typical dormitory room



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Many structures do not require full time power ventilation. For them, Burt's Free-Flow Fan Ventilator is both economical and efficient because it supplies all normal exhaust needs by gravity. But, when greater exhaust is required, its Axial Flow Burt Airfoil Fan accelerates almost six times the removal of extra heat and impurities. It provides positive controlled ventilation. See Sweet's for further details or write for Bulletin SPV-10A.

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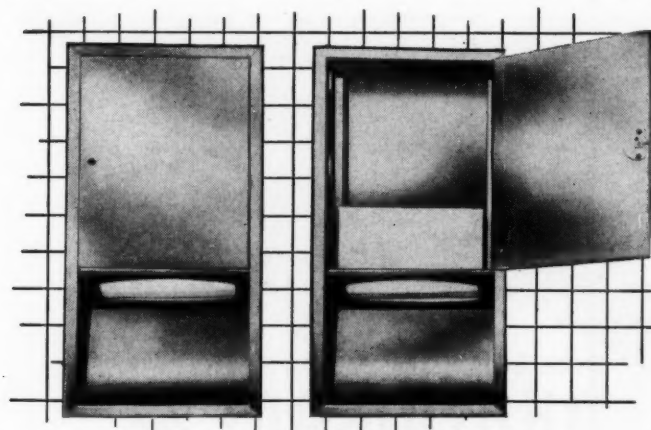
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Fixture dispenses approximately 400 "C" type folded towels.

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Here's the fixture designed to keep step with today's growing trend to recess fixtures. It's one of the many Scott fixtures available to meet the most exacting demands for modern washrooms.

For a detailed dimension and installation drawing of the No. 943 fixture or for the help of a trained Scott consultant, write Washroom Advisory Service, Dept. AR-3, Scott Paper Company, Chester, Penna.

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● See-GREEN CHALKBOARDS

See-GREEN is a soft, pleasing light green color for chalkboards that brightens any classroom. Its cool restful color helps reduce sharp contrast between chalkboard and walls. Makes room lighter and brighter, too. Glarefree, writes perfectly and is available in your choice of three different types of chalkboards—Enduracork, Permasite or Duroplate.

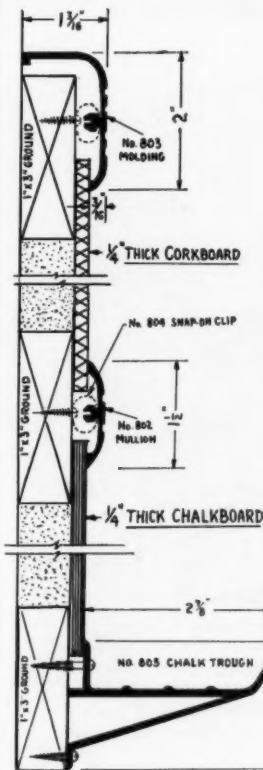
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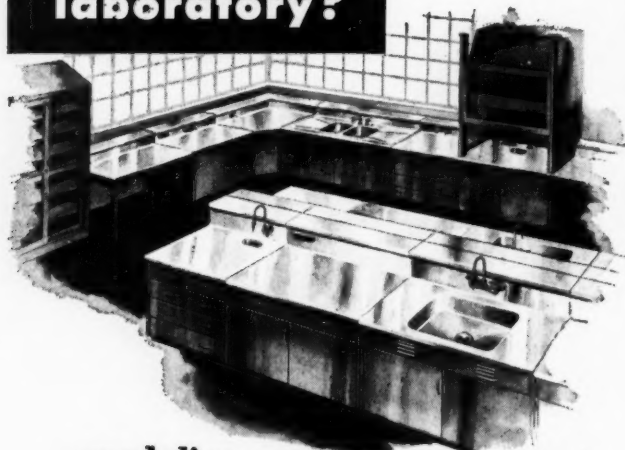
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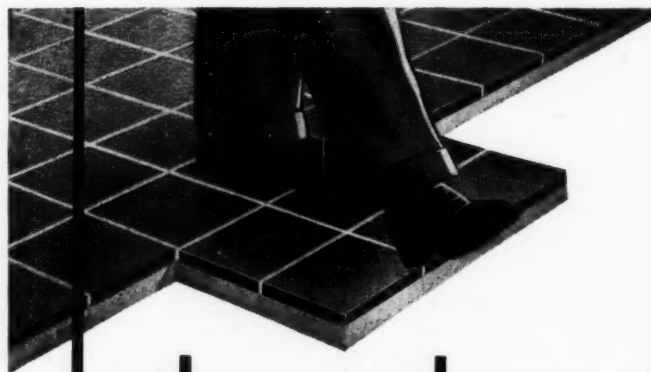
moduline simplifies the architect's layout and installation of cabinets and casework for laboratories and hospitals. Consists of sectional steel units of architecturally approved widths and depths; easy to adapt to any building layout. Fabricated of quality materials; stainless steel tops, or choice of wood, stone, Formica, etc.

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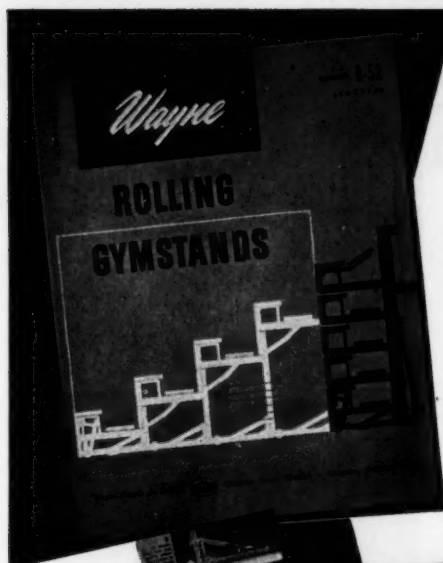
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NEW CATALOG OFFERS HELP IN PLANNING GYM SEATING

You'll want a copy of the new Rolling Gymstand Catalog recently issued by Wayne Iron Works.

Concise, complete and fully illustrated, the Rolling Gymstand Catalog includes:

- Factors to consider in selecting seating • Planning aids
- Types of Gymstands • Design and construction features
- Typical gymnasium seating plans • Installation photographs
- Specifications for gymnasium seating • Dimension tables

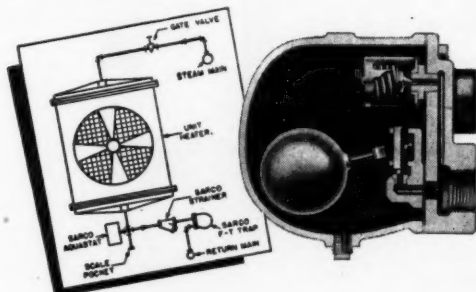
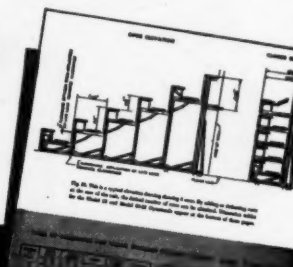
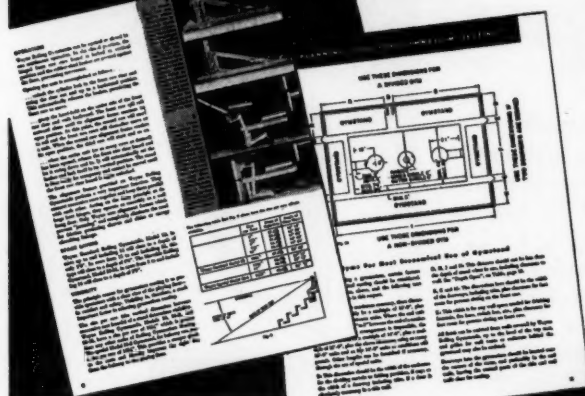
The Wayne Rolling Gymstand Catalog has been designed to serve as a useful reference source for busy school administrators. It's packed with helpful information on gymnasium seating.

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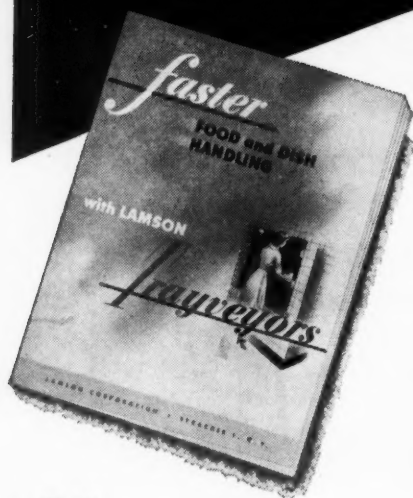
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THE RECORD REPORTS

N. A. H. B. Convention

(Continued from page 12)

expressed their desire to solve problems of low-rent housing and clearance of blighted areas by means of an aggressive private enterprise program. A telegram of greetings and encouragement in this endeavor, sent by President Dwight D. Eisenhower, was read to the convention.

Emanuel M. Spiegel of New York City and New Brunswick, N. J., was elected president of the Association. Richard G. Hughes of Pampa, Tex., became first vice president.

Winners in a "Merit Award" competition sponsored by the Association to recognize "outstanding achievement in home design" were announced as follows:

Stern & Price Inc., Cupertino, Calif., Chris Choate, Los Angeles, architect, and Cliff May, designer; Strausman Construction Co., Great Neck, N. Y., builders, Matern & York, Jamaica, L. I., N. Y., architects; Pardee-Phillips Construction Co., Los Angeles, builders, A. Quincey Jones and Frederick E. Emmons, Los Angeles, architects; Eichler Homes, Palo Alto, Calif., builders, Anshen and Allen, San Francisco, architects.

Also Haverstick Builders Inc., Dayton, Ohio, builders, Rollin L. Rosser, Dayton, architect; Ray Homes, Los Angeles, builder, Edward H. Fickett, Los Angeles, architect; Bralei Homes Inc., North Little Rock, builders, Yandell Johnson, Little Rock, architect; Bralei Homes Inc., North Little Rock, builders and architects; George Good-year Co., Charlotte, N. C., builders, William G. Lyles, Bisset, Carlisle & Wolff, R. Emory Holyroyd, Associate, Charlotte, architects.

Jury for the awards included two members of the American Institute of Architects, Morgan Yost and Richard Bennett; and three representatives of the National Association of Home Builders, Leonard L. Frank, Earl W. Smith and Irvin A. Blietz.

Big Products Exhibit

The exhibit of building materials was a gigantic affair. A review of some of the products shown includes the following:

New floor coverings were much in evidence. One all-purpose tile, available in a variety of colors and patterns, can be installed without the use of adhesives or tools of any kind. An outstanding feature of this tile is that it can be

(Continued on page 366)



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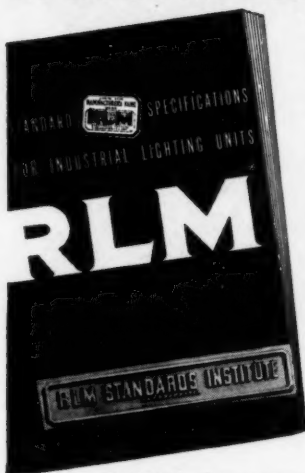
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Nos. 9, 10 RLM 40" OPEN END UNITS two and three-lamp
Nos. 22, 23 RLM 40" TWO-LAMP UNITS with LONGITUDINAL SHIELD open and closed end
Nos. 7, 11 RLM 50" TWO-LAMP UNITS open and closed end
Nos. 28, 29 RLM 72" OPEN END UNITS two and three-lamp
Nos. 30, 31 RLM 96" OPEN END UNITS two and three-lamp

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No. 2 RLM DEEP BOWL REFLECTOR
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No. 10 RLM GLASS/STEEL DIFFUSER



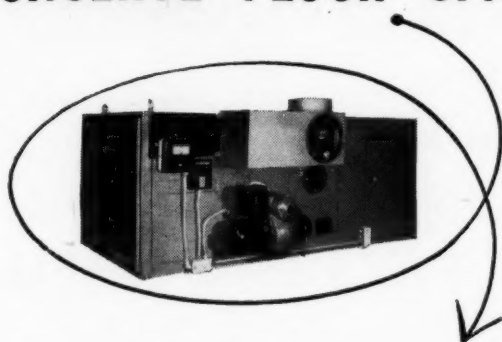
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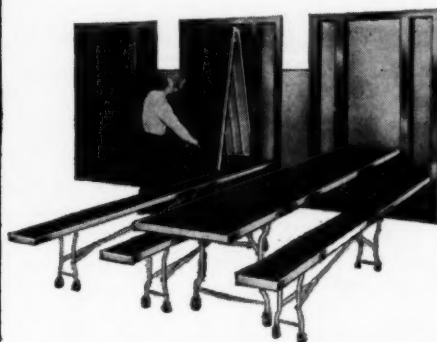


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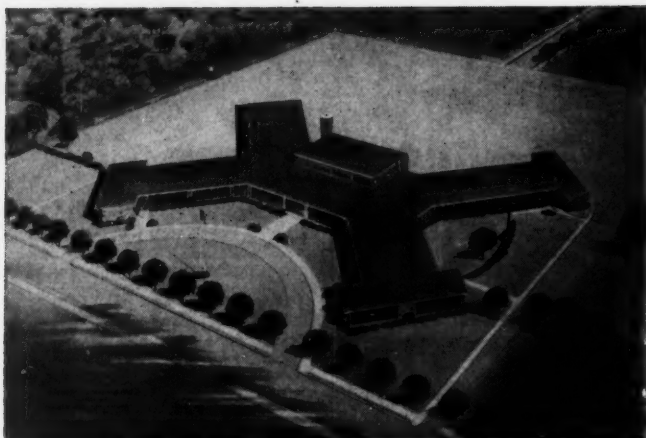
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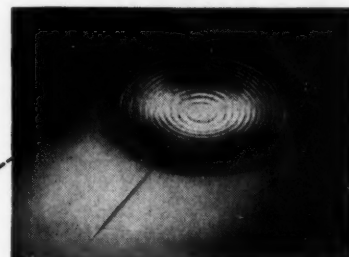
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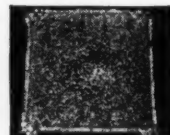
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PYREX "DOUBLE-TOUGH" (tempered) LENS LITES are available in sizes 7 1/4" and 11 1/4" for use in hospital psychiatric wards, prisons and similar institutions where law requires.



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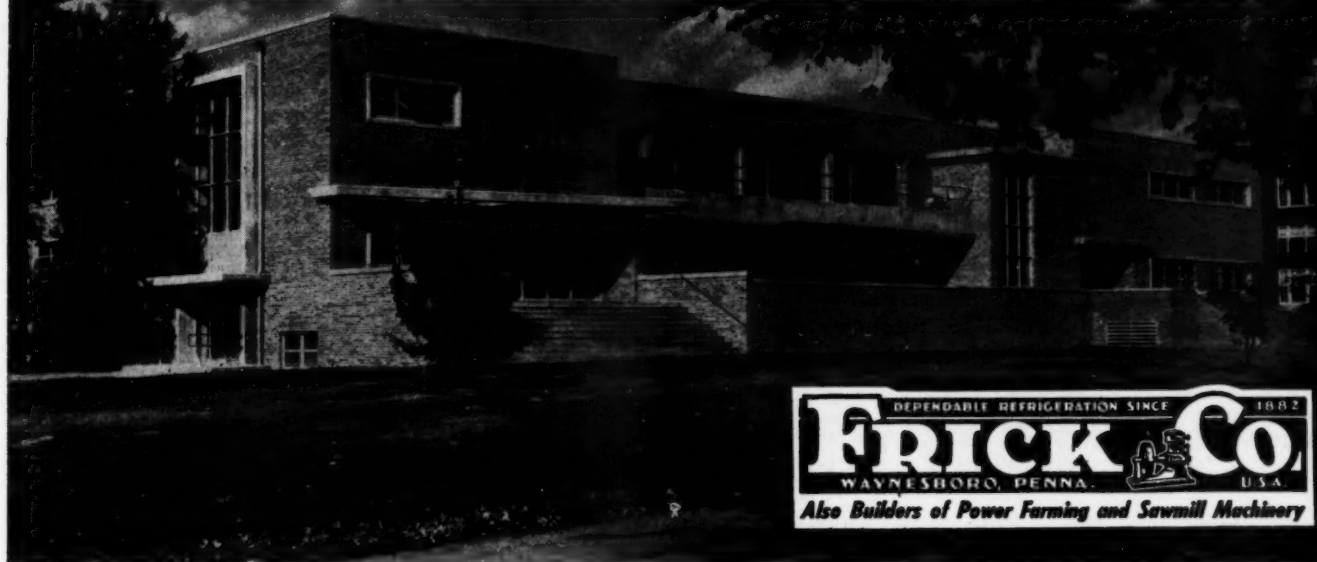
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Two Frick "ECLIPSE" compressors, seen at the right, provide 120 tons of air conditioning in this building at Kansas State Teachers College, Pittsburg, Kan. Hundreds of students using the rooms are assured the health and comfort of cool, fresh air.

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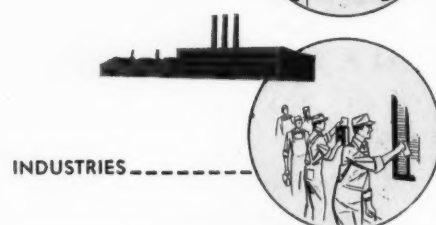
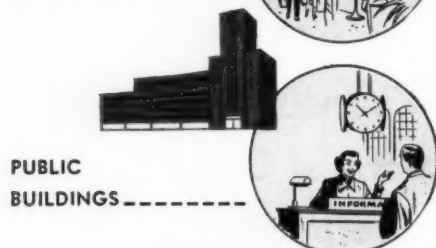
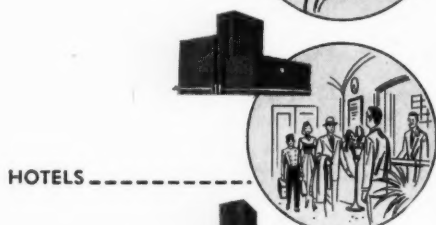
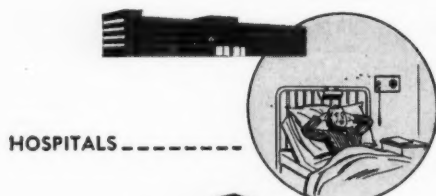
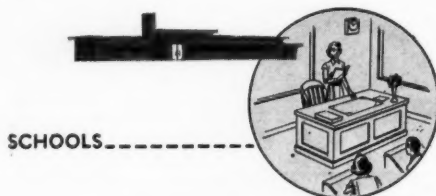
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THE RECORD REPORTS

N. A. H. B. Convention

(Continued from page 362)

taken up — moved from room to room or to another home, thus making it a permanent investment. Suitable for installation in any room of the house, it can be used in below-grade areas where moisture is excessive.

For installation directly over concrete subfloors, there was shown a new hardwood oak flooring which requires no membrane-waterproofing between the slab and floor. For added convenience, it is prefinished at the factory.

A new plastic floor tile has a finish that simulates natural oak parquet flooring.

For the outside of the house, there was shown an asbestos-cement material for exterior siding. It comes in large sheets with an attractive random-ribbed pattern in a variety of colors. For either interior or exterior application, there is a new plastic-faced plywood that is engineered for painting. The material can be bent, thus adding to its utility.

A dozen prefabricated house manufacturers displayed their latest house designs, including completely equipped kitchens and laundry rooms, picture windows, expandable rooms and air conditioning. Two prefab manufacturers erected full-size houses adjacent to the convention headquarters.

Several manufacturers showed lines of colored plumbing fixtures especially designed for economy-class houses.

Also for the bathroom, one manufacturer developed a new "sweatless" water closet tank. Another showed a silent flush valve for water closets. More on the glamor side was a new streamlined bathroom cabinet with twin sliding mirrored doors, and a new combination vanity, lavatory, medicine cabinet and linen closet. For a new look in bathroom walls, there was a metal tile that comes in jumbo-size eight-and-a-half-in. squares.

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OHIO QUICK-MIX MASONS LIME* is also a pressure hydrated lime. Mixed with portland cement, sand and water, it is used for lime-cement mortar, lime in concrete, stucco and lime-cement plaster.

OHIO SANLIME FINISH* dry mix contains all ingredients dry-mixed for sand-finished interior plastering. In white and colors: ivory, light and dark buff, green, pink, and blue. It needs no soaking.

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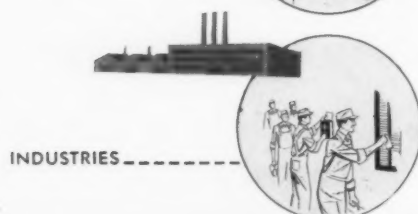
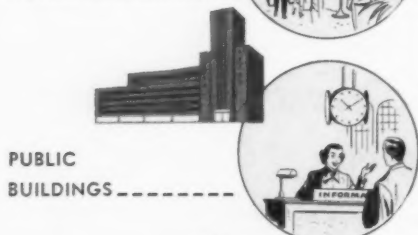
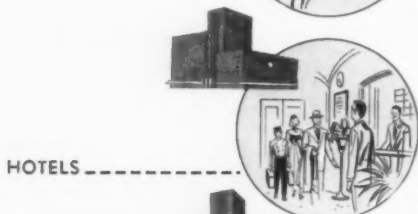
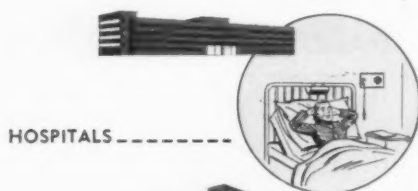
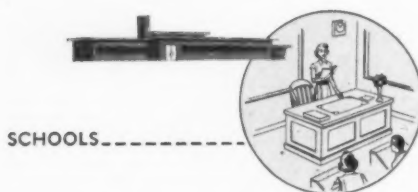
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THE RECORD REPORTS

N. A. H. B. Convention

(Continued from page 362)

taken up — moved from room to room or to another home, thus making it a permanent investment. Suitable for installation in any room of the house, it can be used in below-grade areas where moisture is excessive.

For installation directly over concrete subfloors, there was shown a new hardwood oak flooring which requires no membrane-waterproofing between the slab and floor. For added convenience, it is prefinished at the factory.

A new plastic floor tile has a finish that simulates natural oak parquet flooring.

For the outside of the house, there was shown an asbestos-cement material for exterior siding. It comes in large sheets with an attractive random-ribbed pattern in a variety of colors. For either interior or exterior application, there is a new plastic-faced plywood that is engineered for painting. The material can be bent, thus adding to its utility.

A dozen prefabricated house manufacturers displayed their latest house designs, including completely equipped kitchens and laundry rooms, picture windows, expandable rooms and air conditioning. Two prefab manufacturers erected full-size houses adjacent to the convention headquarters.

Several manufacturers showed lines of colored plumbing fixtures especially designed for economy-class houses.

Also for the bathroom, one manufacturer developed a new "sweatless" water closet tank. Another showed a silent flush valve for water closets. More on the glamor side was a new streamlined bathroom cabinet with twin sliding mirrored doors, and a new combination vanity, lavatory, medicine cabinet and linen closet. For a new look in bathroom walls, there was a metal tile that comes in jumbo-size eight-and-a-half-in. squares.

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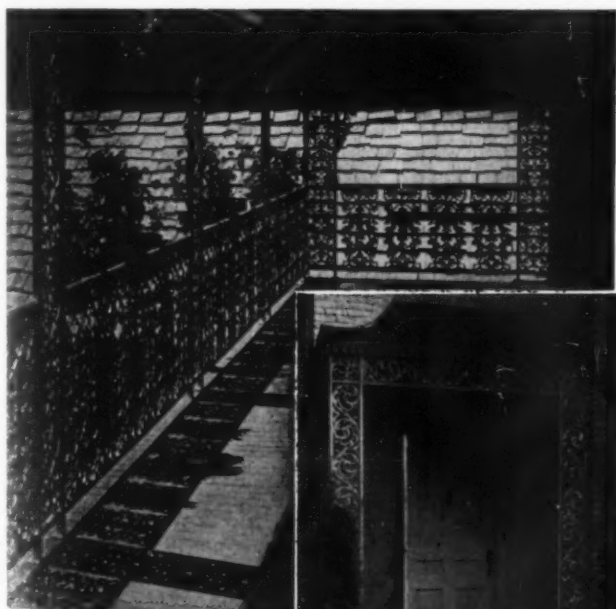
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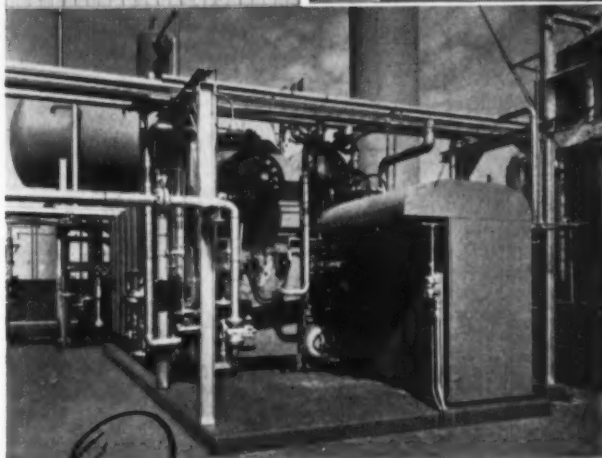
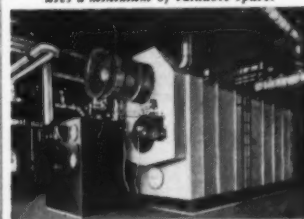
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A completely water-tight, rigid steel casing encloses the entire boiler and furnace of this compact B&W steam unit. Designed to permit proper expansion and contraction of the unit's various components resulting from seasonal temperature fluctuations, the casing is welded for additional strength and tightness. A blanket of mineral wool plus over-all high-temperature insulation of walls, floor, and roof, minimizes heat loss through radiation.

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G-586

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Type of Fit	Weatherstripped	Non-Weatherstripped	Weatherstrip Effectiveness†
Well	14.2	61	4.30
Average	16.7	104	6.24
Poorly	23.8	163	6.85

*At a pressure of 0.20 inch of water (20.4 mph wind velocity).

†Ratio of non-weatherstripped to weatherstripped par-infiltration.

The above facts, plus the complete story on weatherstripping is presented in Bulletin No. 35—"Air Infiltration Through Weatherstripped and Non-Weatherstripped Windows," published by the University of Minnesota, Institute of Technology. The facts showing the economic value of weatherstrip are based on over-all research of climatic conditions in 12 selected cities in the U.S. covering a full range of weather conditions.

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REQUIRED READING

(Continued from page 48)

ity but all prominent in the fields of design, architecture or art history. Four of Mr. Hatje's collaborators contributed articles which preface the showing of over 370 illustrations of varied examples of good industrial design. The authors of these articles are Max Bill, a Swiss architect-artist-designer; Paul Reilly, a British author and journalist, well known in the field of industrial design; Alberto Rosselli, an Italian architect and industrial designer; and Herwin Schaefer, an American art historian now actively engaged in research and exhibition work in the fields of architecture and design. Their articles appear in English, French and German as do all captions. In addition to describing the photographs, the captions also designate the names and country of the designer and manufacturer whose product is illustrated.

Immediately following the text section of four articles is a table of contents which groups the 130 pages of photographs into sections under such headings as plastics, textiles, household appliances, communication, etc. The subjects covered range from crystal and silverware to refrigerators and typewriters. The designers represent the United States and ten European countries; among them are Finn Juhl, Raymond Loewy, Stig Lindberg, John Andersson, Hermann Gretsch, Abram Games, Seguso and many others.

For the convenience of the consumer, a complete index of manufacturers' addresses is included at the back of the book.

"Idea 53" with its excellent photographs and international point of view will surely provide stimulus for those interested in the advance of esthetics in industrial design. G. T. Assie

WHITE HOUSE RENOVATION

Report of the Commission on the Renovation of the Executive Mansion. Compiled under Direction of the Commission by Edwin Bateman Morris. (Government Printing Office Washington 25, D. C.) 1952. 8 1/2 by 11 in. 112 pp., illus.

When the structural weakening of the White House became apparent a few years ago, the problem of preserving the executive mansion was immediately one of national concern, and Congress authorized by law the formation of the Commission on Renovation of the Executive Mansion. After a thorough examination of the building, it was decided

(Continued on page 378)

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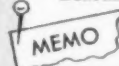
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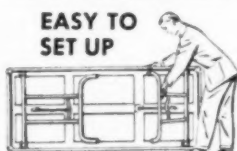
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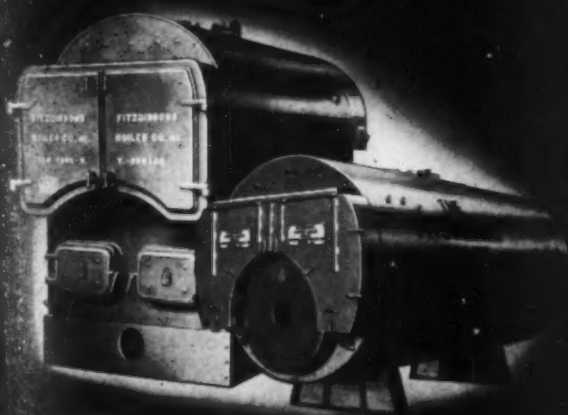
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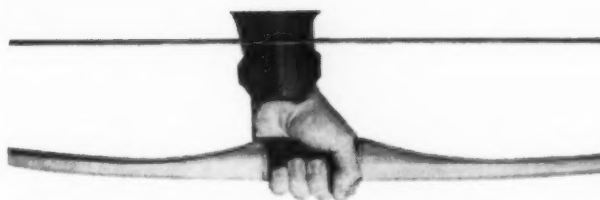
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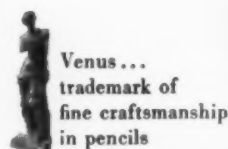


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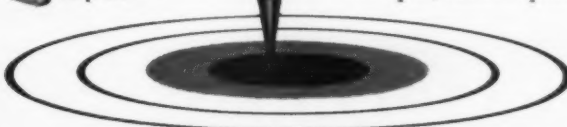
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WRITE FOR LITERATURE



REQUIRED READING

(Continued from page 374)

to carry out the reconstruction within and below the historic outer walls which would be retained intact. In September 1952 the Commission submitted this, its final report.

The published report stresses the preservation of all in the building that was early American; later decoration added over the years gave way to the gracious simplicity of original design. Before restoration, however, came removal of the interior, excavation, permanent steel-frame reinforcement, as well as such improvements as the installation of heating and air conditioning systems, additional wiring and conduits.

The report is interesting—both in its record of contemporary reconstruction and in its presentation of White House history. Black and white photographs, well taken and carefully selected, record the progress of reconstruction while ten color plates show results of the renovation. The four floor plans are included in an appendix containing information on such subjects as reports, costs, contracts, surplus materials, furnishings and acknowledgments. But "Report of the Commission on the Renovation of the Executive Mansion" is more than a report of structural reconstruction and interior renovation; it is also a reaffirmation of the gracious dignity of American tradition. E. B.

BOOKS RECEIVED

Built in U.S.A.: Post-War Architecture. Henry Russell Hitchcock and Arthur Drexler, editors. The Museum of Modern Art. Distributed by Simon & Schuster (New York, N. Y.) 1953. 7½ by 10 in. 128 pp., 190 plates.

Fire Safety in the Atomic Age. By Horatio Bond. National Fire Protection Association International (60 Batterymarch St., Boston 10, Mass.) 5½ by 8 in. 72 pp., illus.

Homes 1946-1952. Compiled by the Central Directorate of Reconstruction and Housing and the Information Department of the Ministry of Reconstruction and Housing. The Netherlands Government Information Service. (The Hague, The Netherlands) 1952. 6¼ by 9 in. Illus.

Housing in Denmark Since 1930. By Esbjørn Hiort (Translated by Eve M. Wendt). The Architectural Press. (London, England) 1952. 7 by 10¾. 11 pp., illus.

Indian Temples. 135 photographs chosen and annotated by Odette Monod-Bruhl. Preface by Sylvain Levi. Geoffrey Cumberlege, Oxford University Press. (Amen House, London ECA, England) Second Edition, 1952. 7¼ by 10 in. 135 photographs.

How to determine unit cost of house construction

—a simplified method applying to all designs and local price variations

THIS book takes up all phases of building a house—earthwork, masonry, carpentry, plastering, plumbing, etc. Tells how to determine costs for every operation; includes data on quantity of material and number of labor hours needed; gives worked-out examples of typical unit costs. As helpful background, it includes structural details and methods of operation for many aspects of home construction. Compares all methods of estimating; gives pointers on the cost summary sheet; shows how to figure exact costs of building a house in any price range, location, or size. Gives full coverage to heating with forced air, one-pipe steam, and one-pipe forced hot water.

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By G. UNDERWOOD

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Another valuable building book **The Business of Home Building** A Manual for Contractors

Tells how to make a profit with minimum risk; how to minimize business errors and increase your chances of success. Gives tips on estimating operating costs, accounting, selling, and financing. Points out legal pitfalls. Discusses purchase and development of land, figuring a budget, etc. By B. K. JOHNSTONE and C. E. JOERN. 289 pages, 6 x 9, \$4.50.

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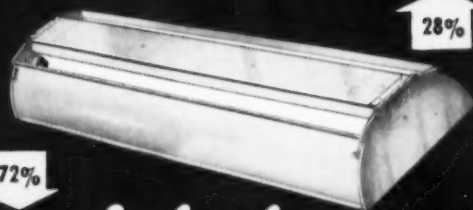
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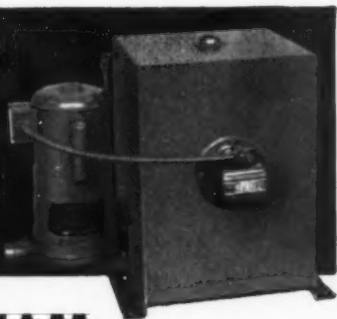
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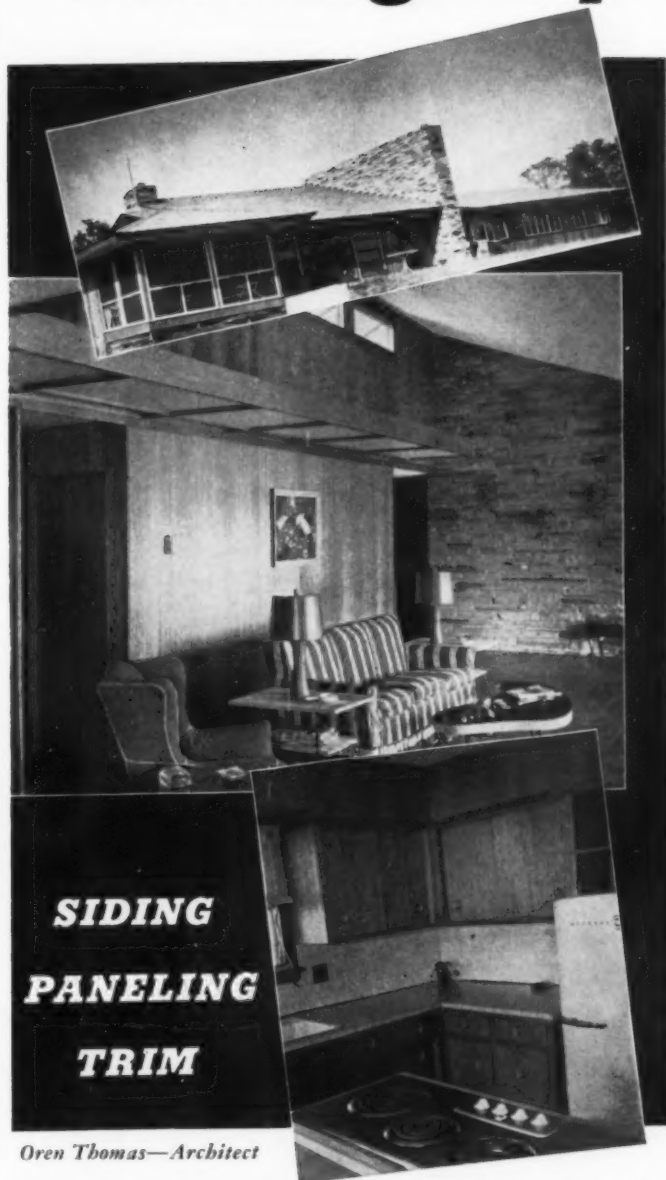
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Beautiful - Permanent

philippine mahogany



SIDING
PANELING
TRIM

Oren Thomas—Architect

This modern, Riverton, New Jersey home is constructed primarily of stone, glass and Philippine Mahogany. Used extensively outside and inside, this fine hardwood blends with the other building materials to create a home of outstanding beauty.



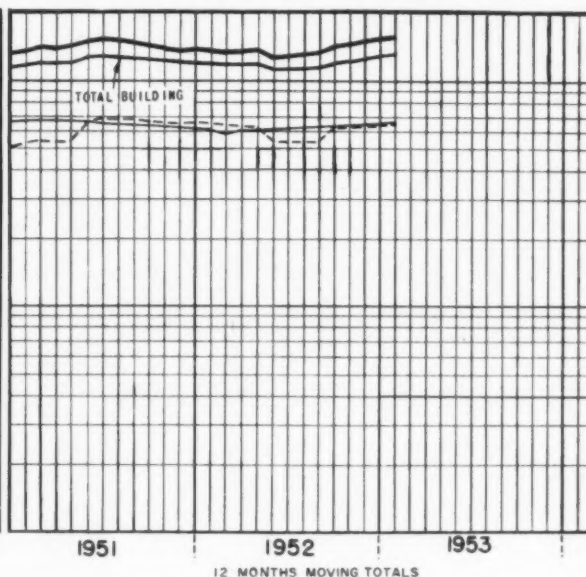
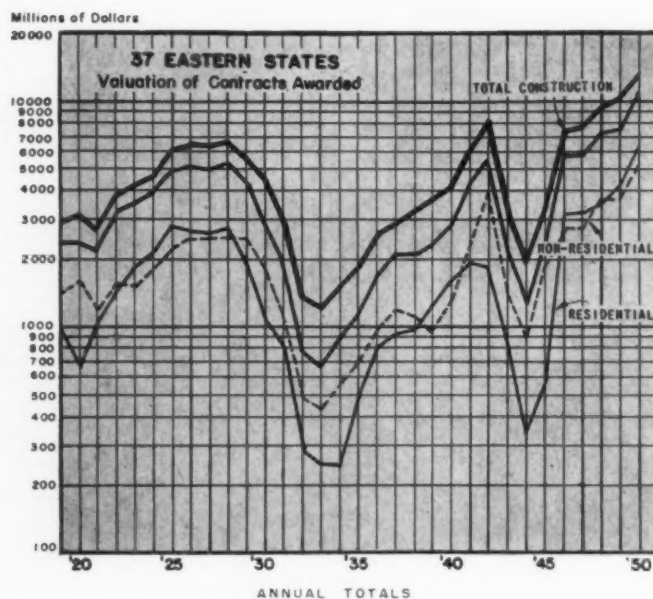
WRITE FOR COMPLETE LITERATURE

PHILIPPINE MAHOGANY ASSOCIATION, INC.
Dept. PA, 111 West Seventh Street, Los Angeles 14, Calif.

PHILIPPINE LUMBER PRODUCERS' ASSOCIATION, INC. Manila

CURRENT TRENDS IN CONSTRUCTION

Charts by Dodge Statistical Research Service

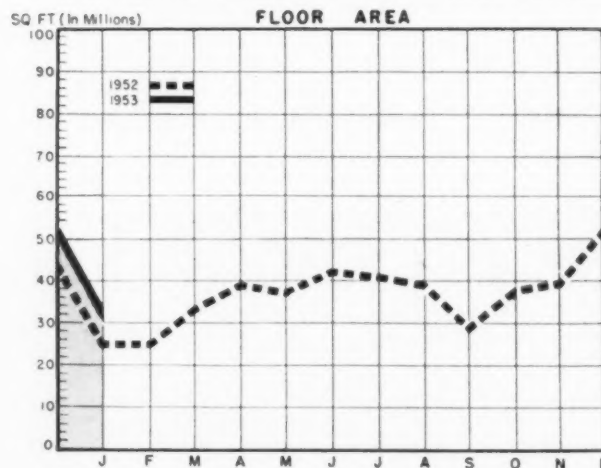


COMMERCIAL BUILDING UP SHARPLY OVER 1952

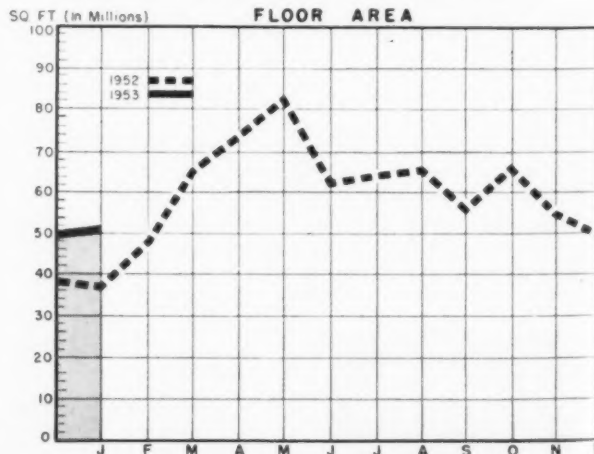
Favorable factors in U. S. construction, such as the long-awaited reductions in controls and shortages, still continued to have the upper hand in the early part of 1953. January contract awards in the 37 Eastern states for non-residential building (floor area) were up 30 per cent over 1952. Residential awards were up 36 per cent. Outstanding was the level of the commercial building category in January: here volume was 89 per cent above January 1952.

Apartment buildings, hotels, churches, and social and recreational buildings all showed increases over 1952. Educational and science building continued at a high rate. As was anticipated, there was a decline in the valuation of manufacturing building, although not enough to offset the increase in other types. Although public works construction in January continued at about the same level as last year, some question about its future was raised by the request of President Eisenhower for economy cut backs in Federal work. If Federal cut backs were to be accompanied by similar reductions by states and cities, it might have an important bearing on the future volume of the public works and utilities classifications.

NON-RESIDENTIAL BUILDING (37 EASTERN STATES)



RESIDENTIAL BUILDING (37 EASTERN STATES)



School & College Building Construction 1939-52
(37 Eastern States)

(Floor Area—Thousands of sq ft)

Year	Annual Total	Monthly Average	1952	Monthly Total
1939	31,310	2609	Jan.	7036
1940	21,915	1826	Feb.	7444
1941	20,843	1737	Mar.	7984
1942	26,319	2193	Apr.	8119
1943	9,329	777	May	9431
1944	6,608	551	June	7634
1945	7,507	626	July	7566
1946	17,161	1430	Aug.	9441
1947	34,984	2915	Sept.	5878
1948	60,846	5070	Oct.	7945
1949	72,731	6061	Nov.	7731
1950	102,734	8561	Dec.	11450
1951	99,743	8312	1953	
1952	97,659	8138	Jan.	7001